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COOPERATION IN ESTABLISHING STANDARDS OF MEDICAL EDUCATION *

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We have cause for sincere congratulations in this meeting of representative members of all three of the great organizations which have for their object the elevation of the standards of medical education in this country. Indeed, it would be almost a crime to divide forces or influence when all share one great purpose. It would be unfortunate if any personal feelings or jealousy should exist or be tolerated when the welfare of mankind is at stake; for there is no higher or more sublime object in the field of human endeavor than the protection of the health and lives of our people.

The days of witchcraft and alchemy have passed and all isms and pathies will disappear before the ever-increasing and broadening influence of true science. There are always antagonistic forces present to obstruct every move for the betterment of our profession and to question the character and fitness of its members, which are strengthened and kept alive by internal dissensions or cross-purposes existing between either of the great bodies or their members interested in the work. Therefore, it is imperative that at least these three should get together on common ground, with singleness of purpose and unity of action, until those who select medicine as their life's work can get in any section of this country an education second to none in the world.

How easily this ideal can be realized when the Council on Medical Education of the American Medical Association, with sufficient funds for all legitimate uses available and the prestige of sixty thousand physicians, with that great medium of publicity, THE JOURNAL, to inform the profession of the progress made, has joined hands with this Association of Medical Colleges, the membership of which is composed of a majority of the best schools in the country! Nothing but good can result from such a union, so long as the portal of entrance is scrupulously guarded against all but those schools which live up to the requirements of the association, not simply because of their obligation to do so, but because they believe in them and stand ready, at all times, to advance to a higher and better standard, in keeping with the progress of the age and the demands of the ever-increasing and enlightening truths of medical science.

Now, when these two are so fortunate as to work in harmony and unity with the organized examining and licensing boards of the various states having the legal power to enforce all laws and regulations passed for the protection of the people, a trio of such strength has been formed that the day of reckoning for "diploma mills" and uneducated physicians, or quackery of all kinds, is not far distant.

Then only the schools doing honest work, with standard and acceptable courses of study, will exist throughout the entire country. Then, and not until then, will reciprocity be a reality. The improvement in medical schools, in equipment and standards in both entrance requirements and curriculum, in the last few years has revolutionized medical teaching. When we consider that only seven years since we had about 170 medical schools in this country, practically as many as those in the rest of the world, and that the awakening of professional and public sentiment, educated and guided by such organized efforts as those of our own association, and those meeting with us, has lessened the number by one-third, we have just cause for congratulations.

While I would not advise reckless or unjust condemnation of others, or such radical and rapid changes as would work a hardship on those schools struggling under great difficulties to meet the requirements of the times, I would insist that the entrance into this association of colleges be zealously guarded, and that no school be admitted to membership that does not fulfil every requirement, in both facilities and teaching ability, and in honestly upholding our standards as well.

No backward step must be taken, and very thorough investigation must be made before admittance. One unworthy school can so tarnish our reputation that it may take years to overcome the mistake. In my opinion it will be equally disastrous and hurtful to the cause of medical education if we should advance standards, especially entrance requirements, beyond what the existing conditions of preparatory education can stand. To explain: it would be folly for the state boards of medical examiners to expect higher entrance standards than the schools in the states are prepared to give, and it would be suicidal for the medical school in any state to fix the entrance requirements higher than its students have had an opportunity to receive. By so doing, the schools would entirely exclude good men who seek and deserve a thorough medical education, or drive them to accept the inevitable, and enter the low-grade schools.

While, of course, I accept as the minimum the present standard of a four-year high-school course, or its equivalent, and believe that nothing under this should be tolerated, in my opinion, in view of the fact that high-school courses vary greatly in the different sections of this country and are indefinite and without censorship, the fourteen-unit plan that has been suggested would be more uniform and acceptable. I doubt the wisdom of aspiring to a higher minimum standard at the present time, especially by these bodies, all three of which are

*Address of the president of the Association of American Medical Colleges, read before a joint session of that body with the Confederation of Examining Boards of the United States and the Council on Medical Education of the American Medical Association.

national, and must, therefore, consider the conditions of every section of the country. I have been convinced, after years of work and close study of these problems, that the cause of medical education in general will be injured in this country rather than helped by higher entrance requirements until the present movement, which is universal, shall have improved the system of preparatory and general education.

Of course, this will in no way prevent those schools which are fortunately located from demanding a standard much higher. While I am firmly convinced that our present entrance requirements and the four years of a strictly graded course are sufficient for the present, I would respectfully suggest that the trouble is not in either of these adopted standards, but in the loose way in which they are enforced.

If these three educational forces would see that every school conscientiously enforced to the letter its published requirements, without evasion or equivocation, and emphasize the fact that there is no difference between individual or personal morals and collective or school morals, they will have taught a great and much-needed lesson, placed medical education on a very much higher plane and sounded the death-knell of all pretenders and low-grade medical schools.

Improved facilities for teaching, in keeping with the necessities of an up-to-date course in modern medicine, the rapid progress of which is the wonder of the age, should be demanded. We must not only act together, but work separately, as each of the three bodies assembled here, with a common interest, has its distinctive field in which the others can be helpful only in an advisory way. The association of schools should first see that none but those doing high-class and honest teaching shall be members and that the equipment and facilities for both scientific and practical training shall be in every school.

I would emphasize the practical, as the tendency of the times seems to be to lose sight of the essential element in the preparation of a student for his life's work, viz., to combat and prevent disease, relieve suffering and save human life. While there is a place for men in the laboratories of experimentation and original investigation and research, the great majority will best serve and fulfil their mission in life by receiving a thorough training in medicine at the bedside, with a well-rounded course which will enable them to apply their laboratory training as an indispensable aid to thorough work. If the consensus of opinion, after thorough study of this great question of medical training, is in favor of an additional year, I am convinced that we would give to the world better doctors by adding a fifth year of clinical and bedside instruction rather than an extra year preparatory to the study of medicine. Facility in diagnosis and skill in the application of prophylaxis and treatment of disease can be acquired only by such a practical course of study.

With sufficient educational training to prepare the mind for the assimilation of medical teaching, a four-year course of study, as given in our best schools of to-day, with an additional year in hospital work, would, in my opinion, be an ideal preparation for one whose life-work is to prevent and combat disease. In making this statement I am not unmindful of the great advantage of a classical education in every avocation of life and I am in thorough sympathy with the improved laboratory training, without which no medical education is half complete; indeed, no doctor can practice modern medicine without the chemical and microscopic aids taught in the laboratory, for they are absolutely necessary.

The Council on Medical Education of the American Medical Association occupies a peculiar, but very important place in this work. It can exercise no authority; at the great bar of publicity its standing is conferred by the great prestige of a national association of the medical profession. While it has made mistakes, I, who have been a member since its organization, can truthfully say that, individually and collectively, as a body the Council has labored honestly and faithfully to better conditions and to elevate standards gradually, by selecting facts and giving to the profession statements of their findings in each state in the Union, thereby creating a healthy sentiment in favor of improvements in medical education as rapidly as the educational conditions would permit. Always mindful of the fact that it represented the entire country, in which standards differed widely, and which in some sections were distressingly low, by availing itself of the council and advice of all organizations laboring in the field as well as the opinion of educators all over the country, it has created a sentiment which has helped to better understanding and has made it plain that there is no longer in this country a place for the cheap and poorly-equipped medical school. It is with pleasure that I announce a recent action of the Council, inviting a delegate from the Association of American Medical Colleges to attend and take part in all of its private meetings.

The function of the Confederation of Medical Examiners is so necessary to the perfecting and enforcing all advances in medical education that it is especially fortunate that they have met with us this year. The examiners have great advantage of being on the ground, as it were, and understanding the local conditions. They can have a large influence in promoting better preparatory education, and, indeed, it would be impossible for them to exact entrance qualifications without seeing that the educational conditions of the state would justify them; in other words, they must insist on better facilities in public schools and preparatory schools in their respective states if they would insist, as they should do, that the present entrance requirements of this college association be the minimum for a college to be recognized. Again, they are indeed public benefactors when they protect their people from irregular and ignorant pretenders, as well as improve the moral and ethical relations both in the profession and with the public.

I would suggest that growth and importance bring increased responsibilities and obligations. This is true of our Association of Medical Colleges, on whose faculties are men of experience and ability, many of whom are leaders in the magnificent progress of medicine and surgery in the last few years; and I believe that if they would assist, with their combined wisdom and experience, the few hard workers in this association, our position would soon be the commanding one on all questions of medical teaching. Others interested in this work would yield to this association the right to fix all standards. For teachers, by right of their positions and experience, are the ones best prepared to suggest all advances and improved methods. They are, by virtue of their work, best equipped to inspect schools and pass on their laboratories, curriculum and teaching ability. For this purpose the president, secretary and chairman of the judicial council form what is known as a visitation committee, the duty of which is to investigate, not only applicants for membership, but the members, at least every five

years; and this requirement, if it were carried out strictly, especially the occasional inspection of our members, would at once strengthen and broaden the influence of this association and commend it to the state board of examiners, do much to quiet the present state of unrest and dissatisfaction existing in many medical schools and elevate medical teaching in the eyes of the public out of its present questionable status.

Standards acceptable to examining boards could be established and the variable demand of the different states be gradually molded into a universal and much-needed standard agreeable to all. The result would be better-prepared and more uniformly educated physicians, and more ethical relations between the profession and the people. The time is ripe for some organized body to assume command and restore confidence by combining the good accomplished by the several organizations laboring in the field. We should stand sponsor for as high standard of medical education as present conditions will permit, at the same time quieting the present feeling of uncertainty which is agitating the modern school-world with the assurance that the schools would be given time to establish and enforce the demands of to-day, and adjust themselves to the changes, at least before some other radical change is forced on them.

While I would not detract from the great advances made in the last few years—and every force deserves credit for honest and faithful service—the conditions mentioned above are the natural result of lack of concerted effort and unity of action, and but illustrate the necessity of uniform standards applicable to the whole country.

Now, I ask, what body is best equipped and qualified for this work, or into what hands can be placed the elevation and perfecting of medical teaching to properly meet the demands of the present, if not our own Association of Medical Colleges? Indeed, we shall be derelict if we do not assume this responsibility. If every school which is a member would live up to association standards and assume and perform its part willingly and enthusiastically, every worthy school would seek membership, and the vexed problem of standardizing medical teaching would be solved.

State laws can be made more uniform if the American Association of Medical Colleges and the Council on Medical Education of the American Medical Association join forces with state boards, and the unfortunate necessity for the present differences in grading schools will have passed; for there will be no excuse, even commercially, for the existence of low-grade schools, and the much-needed reciprocity between the United States and Canada will be assured, and with European countries as well.

In this short paper I have tried to point out some of the strong and important reasons for all three of the educational organizations meeting here at this time. I predict that their coming together in a bond of unity of purpose will, of necessity, vitally affect every side of this great question. The combination of our interests and energies for the future promises great things for the medical profession, and, through them, for the people of this country.

In closing I would make the following suggestions:

1. This association should adopt a uniform standard after consultation with all forces interested, and enforce this standard by frequent inspections of members.

2. Inspections of both applicants and members should be placed in the hands of a judicial council or a committee appointed for that purpose; at least two men should be required for the inspection of any school, and the report should be in writing for future reference.

3. The interests of the association demand that the work be divided up so as to utilize as many men and their influence as possible, if we would broaden our field of usefulness in both higher educational and moral or ethical standing sufficiently to make membership an honor so distinctive that all good schools will desire the connection.

4. At present the four-year high school, or the fourteen units for entrance and a four-year strictly graded course of study of 4,000 hours is as high as the conditions of education will permit.

5. If an additional year is wise, then a fifth year following the present four-year plan, which shall be strictly practical and bedside in hospital wards, is preferable; and this association should insist that a hospital controlled by the college is essential to thorough training.

If these suggestions are carried out then this association will be a great factor and the day will not be distant when the medical men of America will be recognized all over the world. Then and not until then will this association have fulfilled its true mission.

150 North Eighth Avenue.

THE POISONS OF THE TROPICAL TOAD, BUFO AGUA

A PRELIMINARY COMMUNICATION *

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Poisons of animal origin, using this term in its widest sense, have always been of interest to the student of medical science, and of late years they are beginning to be of actual value to the medical practitioner. Among poisons of animal origin[1] may be named the various snake venoms, the poisons of amphibia, of fishes (e. g., the fugu poison of Japan), of mussels (mytilotoxin), of scorpions, spiders, bees, ants, beetles (e. g., cantharidin), and other insects. Among poisons derived from the organs of mammals may be named those obtained from the thyroid and suprarenal glands as having a very high therapeutic value.

While continuing our studies, in the autumn of 1910, on the convulsant action of certain organic dyestuffs, acid fuchsin, betanaphthol, phenolsulphonaphthalein, and tropeolin, we had the opportunity of trying the effect of these substances on a tropical toad, *Bufo agua*. While engaged in this study our interest was aroused by the milky secretion which exudes from its "parotid" glands when the animal is greatly irritated. Scraping off some of the secretion with a knife, we were struck by the bluish-green discoloration which appeared on the blade soon after it had been used. This observation led us to test some of the diluted secretion with ferric chlorid. This reagent was found to develop the characteristic green color of the pyrocatechin reaction. As this reaction is given by the active principle of the suprarenal glands, further tests were at once undertaken with the object of identifying the substance in the toad's secretion which reacts with ferric chlorid as described. It was not a difficult task to demonstrate that we were here dealing with a substance which is identical with, or closely allied to, the suprarenal principle. Further work

* From the Pharmacological Laboratory of the Johns Hopkins University.

1. Faust, Edwin Stanton: Die thierischen Gifte, 1905.

on the secretion of the glands demonstrated the presence of a second body which, in respect to its pharmacologic action, is to be classed with substances belonging to the digitalis group of poisons.

The toad has been regarded from the earliest times as a venomous animal. In the Talmud[2] under the name of *tzab* (from the root meaning to swell or puff up) it is differentiated from the frog and is classed with animals whose touch contaminates. Various peoples have made medicinal use of the toad. The Chinese have long used as a remedy a preparation derived from toadskins which they call *senso*. According to a preliminary notice by Hyashi,[3] *senso* is an impure product similar in its action to digitalis, but fifty to one hundred times more powerful. Western nations also made use of the toad for medicinal purposes during several centuries and various European medical treatises and pharmacopeias of an earlier day give to the dried toad a prominent place among therapeutic agents. Thus, in the "Thesaurus Pharmakologicus" of Johannes Schröder, published in Leyden in 1672, and in the "Pharmacologia" of Samuel Dale, published in London in 1692, powdered toad is highly recommended for dropsy, bleeding of the nose and other ailments. In the "London Dispensatory" of 1702, edited by William Salmon, professor of physick, we read, "They (the toads) are hung up by the neck in the air till they are through dry, and then kept for use. Wierus saith that the poudre of a dry'd toad taken 3ss at a time or more, cures almost incurable dropsies, carrying away the water by urine. I suppose the ashes of them burned is better." In an abridged text[4] of some of the medical writings of Michael Etmüller (1644-83), professor of medicine at Leipsic, it is stated that "living toads aroused to the point of fury are venomous, but found dead they are entirely devoid of poison. Transfixed (alive) in the month of July, dried, powdered (the head and entrails being removed) and administered in doses of twelve grains on alternate days they furnish an excellent cure for dropsy. Others administer this remedy in burning fever at its height. Powdered toad is also an effective remedy against incontinence of urine, and is said to be efficacious because of its anodyne character, while its volatile, penetrating salt acts as a diuretic. From it an anodyne oil is also prepared with the aid of sea-salt and sweet almonds."

Toads as remedial agents are further mentioned in the "Pharmacopeia Universalis" of R. James, M.D., London, 1747, in the "English Dispensatory" of John Quincy, M.D., London, 1749, and as late as 1833, but here in a skeptical way only, by J. A. Paris in his "Pharmacologia."

Further testimony that very powerful principles are found in toads is seen in the fact that primitive peoples have made use of their skin secretion as arrow poisons. Thus, Pagenstecher writes:[5]

> According to reports made by the botanist André, which have been substantiated by Saffray, the Choco Indians of the primeval forests of the Sierra Templada of New Granada at elevations up to 2,000 meters employ for this purpose the secretion of a species of pelobates ("spade-footed" toad). The animal is placed in a tube of bamboo, the hands of the operator being protected with leaves, and when some of the poison is desired the tube containing the toad is suspended high over a fire. The toad soon becomes covered with a yellow juice which is allowed to drop into bowls from which it is transferred to small pots in which it gradually acquires the consistence of curari. A further supply of the poisons may later be obtained from the toads thus treated. The poison is smeared on to the tips of arrows which are shot into game from blowing tubes. A small stag is killed by a poisoned arrow in from two to four minutes, a jaguar in from four to eight minutes.

And in regard to the particular toad which is engaging our attention, Filho[6] makes the following statements:

> There exists, more particularly in the regions of the Amazon a species which is a veritable giant among toads and which Spix has described under the name of *Bufo agua*, whose venom it would be worth while to study. It is very probable that this is the species from which the aborigines of the Amazon derive the poison with which they smear the points of their arrows, in place of a sort of curara which certain other tribes use.

Further details in regard to the use of the poison of *Bufo agua* have not yet come to our knowledge, but our own experiments with it give abundant proof that it would be very deadly indeed when used as an arrow poison.

Bufo agua (horridus, maculiventris, marinus, humeralis, ornatus, ictericus, Lazarus, Rana marina, Bombinator horridus, Neotes, Pseudobufo and *Docidophryne agua*) is the largest of the *Anura*, or tailless amphibia, attaining a length of twenty or more centimeters and a breadth of twelve centimeters. It is found in all of the countries and most of the islands of South and Central America, and in the warmer parts of Mexico.[7]

The specimens examined by us were obtained from the neighborhood of Montego Bay, Jamaica, where they are popularly known as bullfrogs.[8] The general color of the animal is light to dark brown with sooty dark patches and its back is covered with warty protuberances. A striking feature is two large oval, so-called "parotid glands" behind each ear. It is from these "glands" that our poison is obtained. According to Seeck,[9] these structures consist of simple, elongated glands closely packed together, the whole bearing a resemblance to a honeycomb. When the glands are hardened in alcohol their lumen is filled with a brownish compact mass.

Bristol and Bartelmez, in a short note in *Science*,[10] say:

> The poison glands are found only on the upper surface of the body, while mucus glands are found all over the skin, and are crowded together in large parotoid "glands" behind each ear. They are much larger than the mucus glands and extend deep down into the compact corium layer. They are surrounded by a thin layer of loose connective tissue which contains nerve fibers and a dense net-work of capillaries. There is an almost continuous layer of smooth muscle fibers about the gland. The cells of the glandular epithelium develop to an enormous size, and when they mature they disintegrate, their entire plasm becoming the secretion, so that when a poison gland has reached its full development it is simply a reservoir of poison. When the poison is discharged the remains of the gland are resorbed, and at the same time one of the five or six undeveloped glands, grouped around the mouth of the functioning gland, grows down alongside the remains of the discharged gland, pushing it aside to occupy its former place.

When the animal is irritated as by the bite of a dog or by some other sufficiently powerful stimulus, mechan-

2. Hoffmann, D.: Das Buch Leviticus, Berlin, 1905, i, 342. Babylonian Talmud: Kethuboth 15 a; Mishna, Teharoth, v. 1.
3. Deutsch. med. Wchnschr., 1911, No. 13, p. 624.
4. Michaelis Etmulleri Opera in Compendium redacta, Londini, 1701, p. 147.
5. Pagenstecher: Allgemeine Zoologie, as cited by Kobert, Lehrbuch der Intoxikationen, Edition 2, 1906, ii, 470.
6. Filho, Lacerdo: Algumas Experiencias com o veneno do Bufo Ictericus (Spix), Archivos do Mus. Nacion. do Rio Janeiro, 1878, iii, 33.
7. Brehm, A. C.: Thierleben, Allgemeine Kunde des Thierreichs, 1878, vii, 602; Waite, F. C.: Bufo Agua in the Bermudas, Science, 1901, xiii, 342. Gosse, P. H.: A Naturalist's Sojurn in Jamaica, London, 1851, p. 431.
8. We are indebted to Prof. E. A. Andrews of this university for much assistance in obtaining a sufficient supply of these animals.
9. Seeck, Oscar: Ueber die Hautdrüsen einiger Amphibien, Diss. Dorpat, 1891.
10. Bristol and Bartelmez: Science, 1908, xxvii, 455.

ical, chemical or electric, the parotid glands exude a large amount of a creamy secretion having a pungent aromatic odor. The glands are certainly under the control of the central nervous system, as their secretion is discharged in consequence of a peripheral irritation of sufficient strength. Budgett[11] states that "the enormous parotid glands are discharged like squirts when the creature is roughly handled." We have not ourselves observed anything of this kind, though we have repeatedly "milked" as many as sixty of the animals at a time. Under chemical and mechanical stimulation we have only noticed free exudation from the openings of the gland. We obtained the needful amounts of this secretion by the simple device of squeezing (or "milking") the parotid glands with a curved hysterectomy forceps, catching the secretion as it spurted out from the numerous orifices into a large glass bowl held inverted over the toad. The semifluid substance thus obtained quickly dries in the air to form hard, brittle scales of a yellow color, presenting much similarity in appearance to dried snake venom. When the air-dried scales are brought into contact with water they swell up to gelatinous masses, and in the presence of much water an opalescent, neutral foamy emulsion is obtained of a most nauseating bitter taste and pungent odor. In its physical properties, the secretion presents great similarity to some other animal poisons, such as the Habu snake venom described by Ishizaka.[12]

EXPERIMENTS MADE WITH THE CRUDE POISON

A little of the emulsified secretion, well diluted with 0.8 per cent. solution of sodium chlorid and instilled into the conjunctival sac of the dog or cat, will quickly cause an extreme constriction of its blood-vessels so that the conjunctiva becomes blanched. This action is due mainly to the epinephrin contained in the secretion, but in small part also to the digitalis-like body. When this latter substance, however, is applied to the eye in the form of a solution of the pure crystals it causes at first a momentary constriction of the smaller vessels of the conjunctiva, but this is soon followed by a marked dilatation, so that great injection and irritation result. No dilatation of the vessels of the eye is observed when only very dilute solutions of the crude poison are used, as in this case the action of the epinephrin preponderates.

A little of the emulsion injected into the abdominal lymph-sac of a pithed frog will soon cause slowing of the heart, with apparent prolongation of the diastolic pause and increase in the ventricular contractions. The final effect is complete stand-still of the heart in systole.

Little, if any, effect is noted when only a small quantity of the dried venom is given to an animal by mouth. Thus, a cat weighing 2.27 kg., received 0.035 gm. concealed in meat. Not the slightest objective symptom was noted during the afternoon on which the animal was under observation. In giving the last piece of meat with the venom concealed in it, however, a minute piece of the poison came into contact with the animal's mouth. The effect was remarkable in causing a profuse flow of foamy saliva. When the animal had ejected the last traces of the poison from its mouth, which was accomplished in a few minutes, it at once returned to its former state of quiet content. The absence of striking symptoms when even a considerable quantity of the crude venom is given by mouth is explicable when it is recalled that the digitalis-like substance of the venom is only slightly soluble in water. It will be shown later that this principle is highly toxic when injected by itself, either subcutaneously or intravenously, so small a quantity as 1.5 mg., nearly causing the death of a very large cat.

Injected intravenously into a large cat, a quantity of the emulsion containing less than 0.020 gm. of the crude dried venom induced a tremendous rise of blood-pressure followed immediately by a fall due to a sudden and complete stand-still of the heart.

When a large quantity of the crude venom is introduced into the stomach more marked symptoms are produced. Thus, 0.1 gm. of the poison enclosed in a capsule was given on an empty stomach to a dog weighing 5.8 kg. In ten minutes a clear bile-stained fluid containing most of the poison was ejected. This was followed by retching and repeated vomiting and profuse salivation, all of which continued at frequent intervals for twenty minutes. For an hour following, during which time the animal was kept under observation, it was much depressed. On the following morning it had quite recovered. In regard to this experiment we would say that the amount of epinephrin present in the venom given to this dog would alone suffice to induce vomiting if given on an empty stomach.

It may further be mentioned that an emulsion of the crude venom is a powerful and rapidly acting agglutinating agent for the red corpuscles of the rabbit, the only animal's blood tested in this connection.

THE PRESENCE OF EPINEPHRIN IN THE SECRETION OF THE POISON-GLANDS

INTRODUCTORY NOTE BY THE SENIOR AUTHOR (A.)

Fortune has thrown in our way an animal secretion which most unexpectedly is found to contain a principle which has hitherto appeared only in the suprarenal glands and in homologous chromaphil structures. In collaboration with A. C. Crawford, I isolated the active principle of the suprarenal glands of sheep and beeves in the form of physiologically active salts which I named salts of epinephrin, for example, epinephrin bisulphate, picrate, etc. The elementary composition of several compounds was established by analysis and for epinephrin bisulphate, for example, was found to be represented by the formula[13], $C_{17}H_{15}NO_4 . H_2SO_4$.

In all of my published papers[14] of that period (1897-1899) it was constantly emphasized by me that epinephrin is an unstable, basic substance, precipitable from solutions of its active salts by ammonia and capable of being separated from the other constituents of the suprarenal glands by the proper use of benzoyl chlorid.[15] And this at a time, I may perhaps be permitted to say, when von Fürth.[16] another investigator in this field, was upholding the supposition that epinephrin is either tetrahydrodioxypyridin, $C_5H_9NO_2$, or dihydrodioxypyridin, $C_5H_7NO_2$.

Later work[17] of mine showed that what I called epinephrin, and salts and compounds of epinephrin, had each and all retained one of the benzoyl radicles which I had purposely introduced into the molecule when I employed benzoyl chlorid as a precipitant. In consequence of the retention of a benzoyl radicle (an unusual circumstance in work of this kind) my salts showed a number of so-called alkaloidal reactions in addi-

11. Quart. Jour. Microsc. Sc., 1899, xlii, 305.
12. Ishizaka: Ztschr. f. exp. Path. u. Therapie, 1907, iv, 88.

13. Abel and Crawford: Bull. Johns Hopkins Hosp., 1897, viii, 151. Abel: Ibid, 1898, ix, 215; Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1899, xxviii, 318; Bull. Johns Hopkins Hosp., 1901, xii, 339; Ibid, 1902, xiii, 31; Ber. d. deutsch. chem. Gesellsch., 1903, xxxvi, 1839; Ibid, 1904, xxxvii, 368; Am. Jour. Pharmacy, 1903, lxxv, 301; Contributions to Medical Research dedicated to V. C. Vaughan, 1903, pp. 138, 165; Jour. Biological Chemistry, 1905, i, 1.
14. References are given in my papers to the work of Oliver and Schäfer and Szymonowicz and Cybulski, who first noted the presence of a vasoconstrictor principle in the suprarenal glands, as also to the earlier papers dealing with the chemical constituents of the glands.
15. See Ztschr. f. physiol. Chem. (Hoppe-Seyler's), xxviii, 218.
16. Von Fürth: Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1898, xxiv, 142; 1898-1899, xxvi, 15.
17. Abel: Bull. Johns Hopkins Hosp., 1901, xii, 339.

tion to those which belong to the entirely unaltered native compound and which were likewise given by my active salts.

Following this work came the next step, the preparation of an amorphous indigo-colored iron compound of the active principle by von Fürth,[18] for which, however, at this time no analytic data were given from which a molecular formula could be calculated. Very soon after came the work of Takamine[19] and Aldrich[20] who succeeded in precipitating the base from concentrated extracts of the gland by the use of ammonia without the assistance of such agents as benzoyl chlorid or chlorid of iron. The formula $C_9H_{13}NO_3$, first proposed by Aldrich, has proved to be the one which truly represents the composition of our substance, but, as that chemist has remarked, "it is interesting to note in this connection that if we subtract a benzoyl residue from Abel's formula for epinephrin—$C_{17}H_{15}NO_4$—we obtain a formula—$C_{10}H_{10}NO_3$—which is not far removed from that of adrenalin." Such a result is not due to chance and could have been obtained only from the study and analysis of chemical individuals.

Next came the brilliant researches of the chemists, Dakin, Jowett, Pauly, Friedmann, Stolz and Flächer which have finally culminated in the synthetic production, first of the racemic and now of the levogyrate form as produced by Nature herself. Thus by utilizing the combined labors of physiologists, pharmacologists, biologic chemists and organic chemists has science again unravelled one of Nature's secrets.

The Council on Pharmacy and Chemistry of the American Medical Association has lately adopted[21] the name epinephrin for the active principle of the suprarenal glands in preference to using a commercial or protected name and it is for this reason that I am using the word in this paper instead of epinephrin hydrate, a name which I have had to abandon and which I proposed with the idea of bringing the free base as isolated by Takamine and Aldrich into line with my monobenzoyl epinephrin.

As already indicated the fine green color produced by the addition of ferric chlorid to a solution of the crude poison of our toad together with the fact that such a solution finally turns pink when exposed to the air and that it exerts a powerful vasoconstricting action sufficed to show that we had discovered a substance closely allied to, if not identical with the epinephrin of the suprarenal glands. The results of additional tests made with solutions of the crude venom confirmed this conclusion. For example, the addition of ammonia or other alkali brought out a fine pink color which appeared instantly and was intensified by the addition of a trace of iodin or other oxidizing agent, and on boiling with Fehling's solution or with ammoniacal silver nitrate solution reduction of both solutions occurred promptly.

Two methods of isolating the newly found substance were employed, only one of which will here be outlined. From 6 to 15 gm. of the air-dried venom were rubbed up with water until a thin, foamy, opalescent solution, or rather emulsion, was obtained. This was repeatedly shaken with fresh quantities of a mixture of ether and chloroform (1 : 4) by which means the digitalis-like body was removed. The solution was then diluted with much water, whereon the mucoid and other contaminating substances were quickly removed by precipitation with basic lead acetate and the pinkish filtrate was immediately treated with hydrogen sulphid, freed from the precipitated sulphid of lead and concentrated to a small bulk under diminished pressure. The above operations from the moment of adding the solution of basic lead acetate to that of introducing the sulphuretted hydrogen must be carried on with great celerity, as otherwise there would be danger of injuring the epinephrin, since the filtrate unavoidably becomes slightly alkaline. Then too, the precipitation with basic lead acetate must be undertaken with highly dilute solutions of the venom only, as otherwise too large an amount of epinephrin will be retained in the precipitate of inert substances. When the filtrate, which has been freed from lead sulphid, has been sufficiently concentrated by distillation under diminished pressure it is only necessary to add ammonia to obtain the epinephrin in crystalline form. By dissolving in acetic acid, adding a small amount of sodium sulphite and again precipitating with ammonia, a very pure, ashless and almost colorless product is obtained.

The results of combustion analyses with products obtained in this way are as follows:

I	II	III
Product Analyzed After Second Precipitation; No Sulphite Used.	Product Analyzed After Third Precipitation; Sulphite Used.	Theoretical Requirements for Formula, $C_9H_{13}NO_3$
C = 58.02	C = 58.68	C = 59.02
H = 6.87	H = 7.56	H = 7.10
N = 7.88; 7.88		N = 7.65

It will be seen that the analytical results here given, especially those obtained with the more highly purified preparation, stand in good agreement with the theoretical requirements for the accepted formula and prove that the elementary composition of the epinephrin from the toad is identical with that found in the suprarenal glands of the higher animals.

Like the principle obtained from the suprarenal glands, *Bufo* epinephrin turns the plane of polarized light to the left. Epinephrin (0.078 gm.) obtained from our toads and three times crystallized, when dissolved in 8 c.c. of water acidulated with acetic acid containing a trace of sodium sulphite, gave a polarimetric reading of —1.00 degree in a two decimeter tube with sodium light, whence:

$$[\alpha]_D^{20^\circ} = -51.30^\circ, \text{ the specific rotation.}$$

This rotation is in perfect agreement with that obtained by Flächer[22] (—51.40°) with the highly purified natural product, and differs from that obtained by Abderhalden and Guggenheim[23] for the synthetic levoproduct by the error of the instrument only.

In regard to its physiologic activity—we need only state that the *rapid* injection of so small a quantity as 0.000004 gm. (1 c.c. of a 0.0004 per cent. solution) into the femoral vein of a dog weighing 6 kg. caused a rise of blood-pressure amounting to 20 mm. of mercury as measured in the femoral artery and that the injection of 0.000008 gm. (2 c.c. of a 0.0004 per cent. solution) caused a rise of 26 mm. The physiologic activity of the substance is seen, therefore, to equal that[24] of the purest specimens of epinephrin that have been hitherto isolated.

It may also be stated that this epinephrin acts promptly as a vasoconstrictor when applied to the blood-vessels of the toad from which it is derived. In other words, the animal has not acquired an immunity against this poison; small hemorrhages in this toad are as easily controlled by a local application as in other animals, and when a pithed toad is perfused with Locke's solution containing a small amount of the new epinephrin, its arterioles are found to be just as responsive to the drug as are those of the frog (*R. clamata* or *pipiens*). So,

18. Von Fürth: Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1899-1900, xxix, 105.
19. Takamine: Therap. Gaz., 1901, xxv, 221; Am. Jour. Pharm., 1901, lxxiii, 523.
20. Aldrich: Am. Jour. Physiol., 1901, v, 457.
21. Proprietary versus Unprotected Names, THE JOURNAL A. M. A., March 25, 1911, p. 910.
22. Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1908-1909, lviii, 189.
23. Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1908, lvii, 329.
24. Schultz, W. H.: Bulls. 55 and 61, U. S. Pub. Health and Marine-Hosp Service, Washington, D. C.

also, dilatation of the pupil is as easily produced in the excised eye of the toad as in that of the frog.

It is seen, therefore, that the results obtained by chemical analysis, by the use of the polarimeter, by quantitative and qualitative physiologic experiments have demonstrated conclusively that the substance isolated by us from the poison glands of *Bufo agua* is identical with that produced by the suprarenal glands of the higher animals.

PERCENTAGE OF EPINEPHRIN CONTAINED IN THE VENOM

It is of interest to learn how large an amount of epinephrin may be isolated from a certain weight of the crude venom. Thus, from 5.42 gm. of venom, weighed one hour after it was squeezed out of the glands, we obtained 0.243 gm. of crystalline epinephrin, a yield of 4.48 per cent. On the assumption that we obtain by this method only about two-thirds of the epinephrin actually present in the crude venom the true content of epinephrin would be nearly 7 per cent. (6.72 per cent.). Judging from other experiments in which the yield was somewhat smaller, we conclude that the secretion probably varies in its percentage of epinephrin with the season of the year and other circumstances. But as the method of isolation is not, strictly speaking, a quantitative one, exact statements as to the variability of the epinephrin content cannot be made.

If we assume that the venom as secreted by the animal contains from 20 to 30 per cent. of water there would still be present, in accordance with the above analysis, about 5 per cent. of epinephrin. In comparison with this we would recall that one[25] of us estimated that the amount found in the suprarenal glands of beeves is 0.3 per cent.

We would here state that we propose to examine the poison glands of this toad by histologic methods for the presence of the so-called chromaphil tissue, a tissue that has hitherto only been found in structures that elaborate epinephrin, and we hope also to examine the skin secretion of other species of toads for epinephrin, as we suspect that this principle is not confined to the poison glands of *B. agua*, but is probably to be found in the skin glands of other toads and perhaps also in those of other amphibia.

THE PRESENCE OF BUFAGIN IN THE SECRETION OF THE POISON-GLANDS

It has already been intimated that the venom of *B. agua* owes its efficacy as an arrow poison in a large degree to the presence of a digitalis-like substance, although the large amount of epinephrin present is an important auxiliary in this action. And it is to the former constituent or to substances closely allied to it, such as have been described by Faust,[26] that toadskins owe their efficacy as a cure for dropsy, a method of treatment which would perhaps still be in vogue had not William Withering, in 1775, introduced for this very purpose the foxglove, the active constituent of an old wives' remedy. Now that science has begun to study the ancient remedy, toadskin, we may confidently expect further discoveries in this field, possibly with results of value for practical medicine.

We have named the digitalis-like substance "bufagin" in order to have a short term sufficiently indicative of its origin.

25. Abel: Am. Jour. Pharm., 1903, lxxv, 301. See also Hunt, Reid: The Comparative Physiologic Activity of Some Commercial Suprarenal Preparations, THE JOURNAL A. M. A., Sept. 8, 1906, p. 790.

26. Arch. f. exper. Pathol. u. Pharmakol., 1902, xlvii, 278; 1903, xlix, 1.

AMOUNT OF BUFAGIN PRESENT IN THE VENOM.

Quantitative experiments have shown us that 0.734 gm. of bufagin correspond to 0.1 gm. of epinephrin present in the venom, and that if the epinephrin content is 5 per cent. we may assume that the venom as secreted contains not far from 36 per cent. of bufagin.

METHOD OF ISOLATING BUFAGIN

It is not difficult to isolate bufagin from the crude venom. The poison is extracted from its solution in water by shaking with a mixture of ether and chloroform as already stated and the solvents are removed by distillation until only a small bulk of fluid remains. This is then poured into a large volume of petroleum ether which precipitates the bufagin as a white resin while holding the small amount of fatty substances in solution. The resinous precipitate is taken up in chloroform and again precipitated with much petroleum ether, whereon it may be crystallized from absolute alcohol. As bufagin is fairly soluble in this reagent crystallization can only be effected from hot concentrated solutions.

For purposes of obtaining an analytically pure product a slightly more elaborate method was employed, a description of which will be given later in the *Journal of Pharmacology and Experimental Therapeutics*. The product obtained by this method was recrystallized from alcohol and finally from hot water. Bufagin is but little soluble in water (0.0002 gm. to the c.c.), but by dissolving the substance in a small volume of alcohol and stirring this drop by drop into much hot water an aqueous (alcoholic) solution containing 1 gram or more in the liter may be obtained. From such solutions the poison crystallizes in glistening clusters of whetstone-shaped crystals and prisms which often attain a considerable size.

PROPERTIES OF BUFAGIN

As thus isolated, bufagin is found to contain no nitrogen and to consist only of the elements, carbon, hydrogen and oxygen. Its melting point is 188°C. The substance is easily soluble in chloroform and acetone, fairly soluble in absolute alcohol, but only very little soluble in petroleum ether and carbon tetrachlorid and also but little soluble in cold benzene. It is a "neutral" compound insoluble in alkalis or acids and in this respect, as in most of its solubilities, it resembles the bufonin which Faust has isolated from the skin of the common toad.

If a mere trace of concentrated sulphuric acid be added to acetic anhydrid containing a trace of bufagin, a fine pure blue color is at once developed. If the reaction is reversed so that a fragment of a crystal is dissolved in concentrated sulphuric acid and a mere trace of acetic anhydrid is then added a fine pink is obtained which soon passes into a plum color which persists for a long time. With iodin and concentrated sulphuric acid the crystals give a play of colors ranging from red through green to blue, as is seen when cholesterin is similarly treated.

If a dilute solution in chloroform is stratified over concentrated sulphuric acid, a pink to deep red zone develops at the border line between the fluids, and when they are well mixed and then allowed to separate, the chloroform solution gives up all of its color to the sulphuric acid which now shows a greenish-yellow fluorescence.

A preliminary observation shows that bufagin is dextrogyrate. Crystallized from water and dissolved in 8 c.c. of chloroform, 0.160 gm. gave a polarimetric reading

of +0.44 degrees in a two decimeter tube with sodium light from which it is seen that the specific rotatory power is

$$[\alpha]_D^{24^\circ} = +11^\circ$$

Combustion analyses[27] show that the elementary composition of bufagin can only be expressed in the formula, $C_9H_{12}O_2$, or in terms of a multiple of this formula, such as $C_{27}H_{36}O_6$. The following tables give some of our analytical results.

I	II
Obtained directly from venom, but crystallized from dilute solution in petrol ether + chloroform without any other process of purification.	Product obtained by crystallization from alcohol after a preliminary process of purification.
C = 70.74	C = 70.98
H = 8.67	H = 8.55

III	IV
Product same as in II, only was further purified by crystallization from water.	Theoretical requirements for the formula, $C_9H_{12}O_2$ or for $C_{27}H_{36}O_6 = (C_9H_{12}O_2)_3$
C = 71.07 | 70.92	C = 71.01
H = 8.28 | 8.25	H = 7.95

It will be seen that our analytical results, especially those obtained with the pure product III, are in perfect agreement with the elementary formula, $C_9H_{12}O_2$ or with some multiple of it as $C_{27}H_{36}O_6$.

The results of a single molecular weight determination by the boiling point method kindly made for us by Dr. E. Emmet Reid in the laboratory of Physical Chemistry in this University, are in favor of the simple formula, $C_9H_{12}O_2$. The molecular weight as calculated from the rise of the boiling point of chloroform (0.144°C. with corrections) with bufagin in solution was 168, whereas that calculated for $C_9H_{12}O_2$ is 152. The determination was not thought to be entirely satisfactory because of the rather limited amount of pure substance (0.578 gm. bufagin in 87.2 gm. $CHCl_3$). Should molecular weight determinations in other solvents substantiate the value here given, it would appear that we are dealing not with an oxycholesterin as we at first surmised, but rather with an oxyproduct of a cholesterin nucleus, for certainly the chemical and physical properties of the substance point to an undoubted and intimate relationship with cholesterin from which there is no escape.

Cholesterin, $C_{27}H_{46}O$, is a monatomic alcohol found in all protoplasmic structures. It is a fairly large constituent of the nervous system, of sebum and other oily secretions of the skin, of bile and other fluids and tissues of the body. Of late years this substance has begun to play a large rôle in the studies on immunology and serology and the problem of unraveling its complex chemical constitution is now absorbing the attention of a number of organic chemists.

Our studies above outlined would lead one to surmise that bufagin is a depolymerized oxycholesterin. When the two molecular formulas, $C_{27}H_{36}O_6 = (C_9H_{12}O_2)_3$, and $C_{27}H_{46}O$ (cholesterin), are compared it is seen that in the former five atoms of oxygen have taken the place of an equivalent ten atoms of hydrogen in the latter. So also a relationship is indicated between our substance and the saturated hydrocarbons α- and β-cholestan, $C_{27}H_{48}$, obtained from cholesterin by Diels and Linn.[28] We are not aware that the molecular weight of these cholestans has been determined, but if we assume for them the lowest possible molecular formula, C_9H_{16}, then here again we come to the formula for bufagin, $C_9H_{12}O_2$, if we substitute two atoms of oxygen for four hydrogen atoms.

27. Complete data for these analyses will be given in a later paper.
28. Ber. d. deutsch. chem. Gesellsch., xli, 544.

The substances bufonin, $C_{34}H_{54}O_2$, and bufotalin, $C_{34}H_{46}O_{10}$, which Faust has isolated from the skin of the common toad, are no doubt also cholesterin-like bodies, as that investigator has suggested, but their relationship to cholesterin is not so immediately apparent as in the case of bufagin, nor can it be expressed in terms of a quantitative replacement of one element by another.

PHARMACOLOGIC ACTION OF PURE BUFAGIN

As this communication has already exceeded the limits of an ordinary "preliminary" paper, we shall not here offer a detailed account of our numerous experiments on the pharmacologic action of this newest member of the "digitalis series", but will content ourselves with a bare statement of our work in this field. We have already said that the substance exerts a vasoconstrictor action when an aqueous solution is applied to the conjunctival sac. This action is also well demonstrated in perfusion experiments with the pithed frog or with the pithed toad, *Bufo agua*, only that in this case a large dose of bufagin is required since the toad shows a high degree of immunity towards its own poison. Injected intravenously into a decerebrate cat whose spinal cord is destroyed, a pronounced rise of the pressure is obtained.

The marked action of bufagin on the heart, its vasoconstrictor action and its powerfully stimulating action on the cardio-inhibitory centre (an action which is completely annulled by section of the vagi and by atropin) compel us to class this drug with the most effective members of the digitalis series. In two out of six experiments on dogs, in which large quantities of the drug were injected intravenously and in which heart standstill was induced, this organ was found on opening the chest, to be firmly contracted in systole. Stoppage of the heart in systole in mammals after bodies of the digitalis series is an uncommon experience in our observation except in experiments in which the organ is transfused by the Langendorff method,[29] and we make mention of the fact here as an evidence of the marked action of bufagin on the heart muscle. A more detailed comparison with other members of the digitalis group will be given later, as we propose to continue our chemical and pharmacologic studies with this drug.

29. Gottlieb and Magnus: Arch. f. exper. Pathol. p. Pharmakol., 1904, li, 30.

EQUIPMENT AND INSTRUCTION OF THE LABORATORY YEARS *

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Before attempting to discuss the subject set before us, it may be well if we agree as to the function of a medical school, and as to the aim of all of us who devote our lives to medical education. In an address last year, Dr. Welch[1] said that our object was "to make good doctors." Professor Minot,[2] in his Washington University commencement address, gives a more exact formulation in these words: "The chief function of a medical school is to produce practitioners." Whichever definition we prefer, we doubtless agree on the main idea; and I ask you, therefore, to bear in mind that our purpose is to make or produce something, and that something is a good physician or practitioner.

* Read before the seventh annual conference of the Council on Medical Education of the American Medical Association, Chicago, March 1, 1911.

1. Proceedings of the Association of American Medical Colleges, 1910, p. 62.
2. THE JOURNAL A. M. A., 1909, liii, 502.

THE FIVE NECESSARY FACTORS

The making of something implies five factors: (1) raw material; (2) a model or pattern (which of course may be either substantial or existing as an ideal in the mind of the workman); (3) men to do the work; (4) a place to work in and tools to work with; (5) time to do the work. The results may be bad from failure in any of these points.

Our frequent considerations of entrance requirements and qualifications of students show our interest in raw material. Our time-consuming studies of curriculum and equipment give evidence that we are concerned with tools and place of work. Our occasional weak efforts to determine who are qualified instructors indicate our interest in workmen. Our discussions of four-year, five-year and six-year courses reveal our recognition of the time factor. While our very discordant ideas as to what constitutes a "good physician" show how little we have considered the model or pattern in our educational manufacturing establishment.

WHAT CONSTITUTES A GOOD PHYSICIAN?

What is a "good physician"? Is he that lovable figure of the "Bonnie Briar Bush," "Old Chester Stories" and other contemporaneous fiction? I am sure most of you would say "No." Is he the hermit of the test-tube, incubator and centrifuge? Being that kind of a hermit, I will save you the trouble by answering "No." Is he the physician (too often found in medical faculties) of extensive clinical training, who ridicules the laboratory and says the microscope has no place in medicine? Some of you will reply in the negative. Is he that combination of assumed dignity, bombast and hair who glances at your tongue, feels of your pulse, and remarks to himself "I've got this fellow bluffed to a standstill"? We are all agreed that it is not he. But we cannot agree exactly what a "good physician" is. Some will say "practical," some will say "scientific." Some will say "knowledge"; some will say "heart."

In proposing to discuss the topic assigned to me from the standpoint of the pattern or model, I shall not attempt, therefore, the task of formulating in words all the qualities of a "good physician." Some of them fortunately are on the surface and do not need a psychologist's analysis, or a philosopher's logic, or a novelist's rhetoric.

ACCURACY IN OBSERVATION

First, the "good physician" must be an accurate observer. His senses must be trained and alert. Eye, ear and finger must be sensitive and connected with a brain which is quick to recognize and discriminate. Dr. Minot, in the paper already quoted from, has discussed this matter fully and convincingly. He points out the difficulties and limitations of accurate observation; some of them connected with our imperfect sense organs; most of them, with our imperfect mental processes. I cannot go into detail here, but the upshot of the matter is that the good observer is partly born and partly made. The former moiety belongs to our raw material and need not be considered here. The latter is of immediate interest, for we know that the power of observation can be cultivated. It improves by practice. Next in importance is skilled direction or instruction.

All of the studies of the fundamental years are suited to develop observation. Anatomy more than the others is adapted to this end. In my judgment, its presence in the curriculum is chiefly justifiable on this account, rather than from its supposed practical value. Anatomy is concerned with a great variety of complex structures, whose materials, textures, forms, sizes and relationships constitute observational material of the most alluring variety and complexity. Moreover the student always feels that the subject is of practical importance, and this adds an element of interest on the part of the learner which gives to anatomy a value for the training of observation even greater than that afforded by its peculiar material and methods.

IMPORTANCE OF CROSS-SECTIONS

I feel that for the purpose we are discussing, namely, the developing of powers of accurate observation, the study of cross-sections of the body is of greater value than dissection. No doubt each supplements the other, but the study of structures from section to section with their variations, appearances, disappearances and relations must be of great influence in stimulating the power to visualize or, as some anatomist has put it, to see the body as if it were transparent, a power so necessary to the physician and surgeon and so impossible of acquisition except on the basis of accurate observation in the anatomic laboratory.

MICROSCOPIC ANATOMY

Like gross anatomy, microscopic anatomy in its various divisions, such as histology and embryology, is chiefly an observational science. Here we introduce the use of instruments of precision as an aid to observation. The microscope is of the utmost importance, not on account of the immediate facts revealed, valuable though these are; nor on account of its use in diagnosis, indispensable though this should be; but chiefly because of the relation in which it places the observer with respect to the objective world. The space sensations connected with binocular vision and accommodation do not help him. The third dimension can only partially be supplied by focusing. If he is to get any idea of solidity and relationship, he must be able to visualize. He must add field to field and place section on section *in his mind*. If I may parody an old adage, he must mix his seeing with brains. Indeed the mental effort must here be inevitably the larger part of observation. Microscopic anatomy is justified on this basis if no other.

NOT TO KNOW MUCH, BUT TO KNOW A LITTLE WELL

If now it is true that anatomy is chiefly to be considered as an aid to the development of accurate observation, we immediately see the futility of hasty and careless dissection and of short perfunctory courses in histology. They defeat the very end for which these studies should be undertaken by substituting hazy impression for accurate observation; carelessness and error for thoroughness and truth.

What is true of anatomy in the above respect is true of every other science so far as the development of observational power is concerned. I think, therefore, that we have a scientific basis for the belief that it is not number of facts that we should attempt to demonstrate, but rather perfect observation and understanding of a few. Nor should we favor a multiplicity of short courses of study. Intensity and accuracy should be our watchwords, rather than breadth and general impression. If one is turned rapidly in a circle, a thousand images flash across the retina, yet one sees nothing. It is those images that are dwelt on and repeated and studied that remain and strengthen our powers and become a part of ourselves.

TEACHING AS A PROFESSION

If it be true that observing power is a chief characteristic of the "good physician," and if it be true that anatomy constitutes an excellent and probably the best training for acquiring this power, and if it be true that particular instruction and supervision are necessary, then it is perfectly evident that proper regard for the product of our educational establishment will make us provide expert workmen in gross and microscopic anatomy. If a man knows what to see in the human body, how to see it and how to bring others to see it, he has enough to keep him busy. He has no time to become competent in another trade or profession. He cannot drive a street car or conduct a real estate business or practice medicine. Hence, we have the argument, from the standpoint of a good "output," for the anatomist who shall give his whole time to the medical school.

ESSENTIAL EQUIPMENT

The same arguments that make necessary the professional anatomist make equally indispensable: (1) a proper place for him to work, which means not only teaching laboratories but also research rooms; (2) proper material for teaching and study, which means cadavers, microscopic preparations, embryos, animals, etc.; (3) proper equipment, which means microscopes, microtomes, models, photographic and projection apparatus, books, periodicals, etc.; (4) proper help, which means janitor service, technician, artist, etc. (on the universally acknowledged economic principle that it does not pay to have a high-priced man do low-class work).

We are driven by all the foregoing to conclude that an institution is failing in its regard for its "output"—for its "model," the "good physician"—when it fails properly to provide for the anatomic sciences.

KNOW HOW TO EXPERIMENT

Besides being an exact observer, the "good physician" must be, in my opinion, a trained experimenter. In regard to this statement there may be diversity of opinion. When I read it first to my wife, she said, "What I want is a doctor who *knows*. Let him experiment on other people. I want him to have his experimenting all done when he comes to me." Doubtless this expresses very well the general attitude of the lay mind; and this attitude may be responsible for the ultra conservatism of medicine. The doctor is afraid of being accused of experimenting with his patients. Nevertheless he is always doing so; and in the present lack of knowledge he must experiment, at least in treatment, whether he wishes to or not. I should perhaps add that by experiment I do not mean the use of some new drug or surgical procedure. If the physician tries the effect of rest, or baths, or gymnastics, or deprivation of coffee, it is just as truly an experiment as a first injection of "606."

The main difference between experimentation and ordinary observation is that in the former the observer controls and varies the conditions. The primary element of observation is just as important as ever, but the equally important element of controlled conditions is added. The mental process is by that addition made more complex. The results, moreover, are more fruitful than those of simple observation, since the experimenter can bring under observation conditions which Nature might never produce.

I said that "good physicians" must be trained experimenters. I believe few are such. Most physicians do not know how to experiment. Their methods are at fault; consequently their conclusions are of little value.

PRINCIPLES OF EXPERIMENTATION

The first principle of experimentation is to vary but one factor at a time. If the physiologist is studying the effect of load on muscular contraction, he does not, at the same time that he changes the load, also change the temperature and the stimulus and the speed of the recording apparatus. But I have seen a physician make all the following changes at one time: (a) put a patient in bed, (b) restrict his diet, (c) give a saline cathartic, (d) give some drug. Then he concludes that the patient's changed condition is due to the drug. This may be true, but the conclusion is not warranted from the experiment.

The second principle of experimentation is repetition. There may be an unrecognized factor. Therefore, no conclusion can be of general application unless the experiment is repeated many times with like results. Of course this is the method of inductive logic in general; but I have frequently heard physicians remark: "I never use so and so. I tried it once and it didn't give good results." This is absurd.

The third principle of experimentation is that the results to be of most value must be quantitative. The practicing physician has hardly made a beginning in the use of this principle.

THE EXPERIMENTAL SCIENCES

The sciences which are preeminently experimental are physics, chemistry, physiology, pharmacology and bacteriology. Each of these, like anatomy, has a large demand for pure observation and is valuable for developing that power. In addition, each asks for experiment. Their general principles are alike, but each has a technic of its own. Physics lends itself most easily to the quantitative method. Chemistry and bacteriology furnish valuable aids to diagnosis, but are distinctively *in vitro* as to method. Physiology and pharmacology, on account of their use of living material for experimental purposes, come especially close to medicine, not only in subject matter but also in method.

What I have said regarding observation and anatomy applies equally well to experimentation and to the sciences just mentioned. If the "good physician" should be an experimenter, surely as a student he must learn to experiment. Learning is by doing. He must learn under those who know how to experiment and how to teach that art. This argument leads inevitably to the professional bacteriologist, chemist, physiologist, pharmacologist. Only that man who is specially trained in one of these sciences, who has done and is doing research in it and who is devoting his whole time to it can teach it to the best advantage.

The same arguments as formerly made also apply regarding equipment and facilities. A chemical laboratory with a place and apparatus and material for each student and rooms and equipment for the staff; physiologic and pharmacologic equipment and laboratories for students and staff; an animal house and living material; technicians and janitors (again on the basis that an institution or factory or railroad is unwise which compels a five thousand dollar man to do the work which a five hundred dollar man can do as well or better); bacteriologic equipment including proper space, instruments and materials for the use of instructors and students; books and periodicals, and places to keep and use them—all these must be provided if the institution has a proper regard for its output, a "good physician."

A "GOOD PHYSICIAN" MUST REACH ACCURATE CONCLUSIONS

To the powers of observation and experimentation the "good physician" must add that of sound conclusion or correct interpretation or good judgment. This means the bringing of facts together and the determination of relationships. It means the recognition of cause and effect. Doubtless the psychologist would further subdivide the mental functions involved. But for our purpose the above will suffice.

Now, it is evident that you cannot make a sound conclusion without the facts, and these are gained by observation, with or without experiment. It is equally evident that an isolated fact is barren and dead. Facts are like the cells of a complex animal, all interrelated, mutually affecting and affected. The hormones or internal secretions constitute a fitting metaphor for those relationships which the power of correlation discovers between the isolated results of observation and experiment.

TRAINING VALUE OF PATHOLOGY

All scientific studies tend to develop this power of interpretative judgment, but not all to the same extent. The dynamic sciences, such as physiology, are more valuable than the static sciences such as anatomy. But perhaps the best for the purpose, at least so far as the making of physicians is concerned, is pathology. At any rate I have reserved this science to illustrate this phase of my thought.

Here we have a pathologic condition. The normal appearance, structure, relation, should be such and such. It should function so and so. How and why did this change come about, and what and how far-reaching may be its results? The entire keyboard of observational science, almost, may here be played on: physics, chemistry, zoology, botany, anatomy, histology, physiology, bacteriology. And just as in music the harmony or dissonance depends on how the notes are chosen and blended, so the soundness or unsoundness of conclusions depends on how well facts have been determined and how truthfully their relations have been perceived.

Wholly apart, then, from the significant facts which it presents—in other words, its subject-matter—pathology is justified in our curriculum on account of the training it affords in one of the indispensable mental qualities of the "good physician." The physician without sound judgment, which means without the power of scientific deduction, is indeed a very bad physician. You catch again the drift of my argument. We must supply a professional pathologist who shall devote his best efforts, in conjunction with those other scientists already mentioned, to building up the students' mental machinery for orderly and logical reasoning.

Just as in the former cases, here also, while the man is of first importance, he cannot do good work without proper surroundings and proper equipment. You must not only furnish the pathologic laboratory and library, but also, and more important, you must secure such hospital connections as will guarantee ample autopsies and supplies of material for gross and microscopic study. You must give the pathologist proper help for the best conduct of his department. You are not having proper regard for your "model" or your output, the "good physician," if you disregard these important matters.

FUNDAMENTAL SCIENCES SOURCES OF POWER

So far I have considered three traits of a properly trained medical practitioner, power of observation, ability to experiment, and sound judgment. I have attempted to prove that the fundamental sciences, wholly apart from their subject matter, are justified in the medical curriculum as sources of power. I have tried to show that they must be taught by professional scientists and not by practicing physicians. I have pointed out that proper laboratories and equipment must be provided, and that to curtail your departments in material and help is narrow business policy. There are a few practical conclusions from these premises which I wish now to present.

NEED OF THE RESEARCH PROFESSOR IN THE LABORATORY

If the sciences are to be taught for power rather than subject-matter, we have, as I have said, the unanswerable argument for the research professor in charge of each scientific department. He alone thoroughly understands the scientific method. How absurd, if this is true, is that frequent arrangement in which the professor lectures and the untrained or half-trained assistants conduct the laboratory work! Laboratory instruction conducted from the standpoint of scientific method is the most difficult form of teaching. Too often, as Dewey[3] well says, laboratory practice becomes purely ritualistic; such and such forms to go through; such and such demonstrations of manual dexterity to be secured. This degeneration of laboratory teaching is due largely to that laxity and short-sightedness which permit its being turned over to secondary instructors. Better by far, if either must be done, is to have the assistant give the lectures and the professor the laboratory instruction, rather than the reverse.

ESSENTIAL LABORATORIES

Secondly, I have spoken of student laboratories. A little reflection shows that these are of four kinds, each concerned with a different material and provided with a different type of equipment. The first is concerned with the human cadaver. The equipment is simple and for a variety of reasons the rooms must be restricted to the one use only. The second type of laboratory is adapted to chemical experimentation. The requirements of heat, water, numerous reagent bottles and considerable individual equipment, as well as the unavoidable fumes and waste products, make it inadvisable to use this laboratory for any other purpose than the teaching of chemistry. The third type of laboratory centers around the use of the microscope. Appropriate tables, abundant light, and individual microscopes are indispensable. The same room may serve for microscopic anatomy and pathology and, with some additional equipment, for bacteriology. The fourth type of laboratory is adapted to physiologic experimentation. It may also be used for pharmacology.

GOOD TEACHERS RATHER THAN FINE BUILDINGS

A medical school which has four good laboratories for students' use should spend its superfluous cash on men rather than buildings. I have no sympathy with that condition which I recently saw in one of our great medical schools where six magnificent laboratories are used only three mornings or three afternoons a week for four months of the year. I admit the advantages of good architecture and fire-proof construction and modern ventilation, but I contend that in some places departmental pride and too abundant funds have led to a multiplication of laboratories which is not justifiable. That all the ideas of industrial efficiency cannot properly be

3. Science, Jan. 28, 1910, xxxi, 121.

applied to universities is readily recognized, but every new building means more money for maintenance and less for men. In our line of business, to use a slang expression, the man is the "whole works," which is really but another way of saying "teacher at one end of a log and student at the other." One log will do for several teachers, if used at different times of the day or different days of the week or different months of the year.

Thirdly, regarding equipment, if proper instructors are secured, you can leave the details to them. You remember the advertisement of the house-furnishing concern, "You get the girl, we will do the rest." The medical school may well be advised to get the man and he will do the rest. Getting the man, too, is as serious a matter for the school as getting the bride is for the swain for whom the advertisement was originally intended.

It was once remarked that, if you give Jacques Loeb a collar-box and a piece of string, he will make a discovery. On the other hand, I know a man who three years ago could not do any work because his Edinger apparatus had not come; two years ago he was waiting for material from Java; last year he found he needed a dark-stage illuminator and a micropolariscope. Now he is waiting for a new laboratory building. These extremes illustrate the man and equipment proposition better than many paragraphs of theory.

TEACHERS MORE IMPORTANT THAN EQUIPMENT

For our friends the state boards we may respectfully suggest that they spend more time in trying to find out whether the medical schools are properly manned, and less in making lists of apparatus which may or may not be used. I once tramped to the top floor of our medical college in order to demonstrate to an inspector that we have a perimeter; and when I showed it to him in a case with other instruments, I am willing to take oath that he was either cross-eyed or else he looked at the wrong thing. This same man did not ask how many paid professors we have, nor what their training and experience have been, nor whether we are doing any original work, nor what the annual budget is. But he did inquire what we were doing with those dogs in a medical school. And he did naively remark when I showed him the pathologic outfit: "Ah, your chemist is in charge of this work?"

Most humiliating of all—but whether for me or him I know not—was his inquiry after consulting his typewritten list whether we had a "bakoscope." I took a glance at the list to make sure I had heard rightly. It was there, "BAKOSCOPE"; and unwilling to admit that I didn't know of such an instrument, I regretfully confessed that we did not have one. I think the investigator took some satisfaction in noting this fact on his report. It was not until some days later that it dawned on me that this probably should have read "phakoscope." But of course my native modesty, up to this time, has prevented my informing the gentleman of this supposition. For the information of certain captious individuals I should, perhaps, add that the inspector in question was not Mr. Flexner or Dr. Colwell.

THE PHYSICIAN'S INFLUENCE

Coming back now to my main theme, it seems to me that the qualities of accurate observation, correct experimentation and logical conclusion are the ones which the physician must depend on for success in the practical part of his profession. They are the attributes of a good technician. But the physician is more than a technician. He stands in the most intimate private relation to his patients. The nature of his work contributes to his influence on the social order. Other men in their professional and business life are apart from society. Only in their leisure hours are they affecting the life of other people, and then not intimately. The physician's influence is always being exerted, and is always direct and potent.

THE "GOOD PHYSICIAN" A MAN OF CHARACTER

Now, the psychologic qualities bearing on this side of the physician's life are many and varied. Professor Minot[2] considers that loyalty is the trait which is most essential. But I prefer to join all the qualities of loyalty, sympathy, promptness, honesty, discretion, firmness and many more into the one quality—character. We are agreed that the good physician must be a man of character. Now character, like everything else, seems partly hereditary and partly acquired. The hereditary element, as also the early acquired, concerns our raw material. We are justified in rejecting and must reject any applicants who give evidence of defective character. That is, however, a hard problem and not for discussion to-day. The question here is, what can we do for the upbuilding of character in the medical school? I take it that this is a most serious question. Under our control and direction come a multitude of young men, many of them just from their homes for the first time and all of them pointed toward a profession whose influence reaches the very fountains of human life. We cannot, if we would, avoid responsibility for the character of these men.

But how can we influence them? They are at that age when the unfettered soul dips into life in all directions; that age whose impelling powers determine lines of progress for a lifetime; that age which examines and tests and questions all things whether material or intellectual. You cannot do much with these men by talk. A preacher in a medical school would need the rarest tact not to be worse than useless. I take it that our young men are influenced most by those whom they admire. These they imitate unconsciously.

THE BEST TEACHER A MAN OF CHARACTER

The point I am driving at is that your medical teacher must be a man of character. He must be a man to whom young men will be attracted and whom they may safely imitate. The scientific attitude of mind with its rigid adherence to truth supplies a basic condition of character; and that is why professional scientists and the scientific atmosphere are especially influential on the character of medical students. But other things are necessary. I would not have a teacher who is habitually profane. Not merely because profanity is wicked, but because it does not conduce to the "good physician." I would not have a man whose lectures are chiefly or even partially made up of coarse stories. I would not have as an instructor in a medical school a physician who all the time emphasizes the financial aspects of his profession.

My thesis is that character is the *sine qua non* of the "good physician," and that the principal way we can influence the medical student, who is a physician in the making, is by surrounding him with characters worthy of imitation. Consequently, the character of a medical teacher is a matter for the gravest consideration. Unless you take cognizance of this you are not having regard for your output, a "good physician."

RECAPITULATION

To recapitulate, we as medical teachers are engaged in manufacturing. Our product is physicians, and they ought to be "good physicians." A "good physician" is a man of character, who possesses the technical qualifications for accurate observation, properly conducted experimentation and sound interpretation. For the acquisition of the traits mentioned no discipline is better than that furnished by the fundamental medical sciences. The sciences therefore should be taught as method rather than subject-matter.

We must furnish for this purpose skilled professionals; in other words, investigators. We must give them places for work; that is, laboratories. We must furnish equipment; that is, tools and books. We must select good raw material and leave it in the hands of the workmen long enough to enable them to produce good goods. If we do not do these things we are not conducting an honest business. Our product is a cheap and deceptive imitation. Our graduate is a counterfeit, and we have not even the counterfeiter's excuse that we need the money, for there is no longer any money to be made in medical education.

ENTRANCE EXAMINATIONS*

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Secretary of the College Entrance Examination Board

NEW YORK

I consider it a great privilege to be permitted to attend this conference and to speak before it in connection with questions that are so important as the requirements for admission to the study of medicine or the methods of enforcing such requirements.

I shall endeavor to show you that the medical colleges of the United States may in a way derive much valuable assistance from an educational institution which within the last few years has begun to exercise an important influence on education in every part of the country; I mean the College Entrance Examination Board.

I will not advocate that everyone who wishes to study medicine should be made first to pass an examination. There are undoubtedly certain classes of men who may be admitted to the study of medicine with comparative safety on the basis of credentials or certificates.

ACCEPTABLE CREDENTIALS

Everyone will agree that a man who is a graduate of a good college and who can produce documentary evidence that, in addition to having acquired the fundamental elements of a liberal education, he has studied such necessary preliminaries as physics, chemistry and biology may be admitted without further formality to the study of medicine. Many will urge that a man who has completed only a part of a college course and who can show that he has pursued courses in such subjects as physics, chemistry, and biology should be admitted to a medical college without examination. Many others again believe that a candidate from an accredited high school who has completed a four-year high school course in which the subjects already mentioned have been included should be admitted without examination. The North Central Association of Colleges and Secondary Schools, the New England College Entrance Certificate Board and other similar organizations have prepared lists of accredited high schools whose credentials are accepted as a basis for admission by many colleges and universities.

CANDIDATES REQUIRING AN EXAMINATION

In addition to such candidates as those whom we have just considered, a very great number of young men every year demand the privilege of being admitted to the study of medicine. In this number will be:

(1) College men and high school graduates whose credentials do not cover all of the necessary preliminary subjects.

(2) Candidates from unaccredited institutions: that is from colleges or schools which for one reason or another have not been accorded the privilege of issuing acceptable certificates.

(3) Candidates of irregular preliminary training, such as those who have been prepared by private tutors, have studied in correspondence schools or in extension courses, or who are self-taught. In this irregular class will be included naturally all students who have attended accredited high schools without completing the school course, or whose work has not been sufficiently good to entitle them to certificates.

It follows that even though a medical college adopt the plan whereby credentials are regularly accepted as a basis for admission, it will have occasion to apply an examination test to a considerable proportion of its candidates for admission. In fact, I will go so far as to assert that no certificate system of admission can be administered efficiently unless it is associated with or supplemented by an examination system. A certificate should be given by a school only when the candidate is plainly entitled to it. In every case of doubt the candidate should be made to prove his worth by means of an examination.

WORK OF THE COLLEGE ENTRANCE EXAMINATION BOARD

An examination system of national scope, open to all, is provided by the College Entrance Examination Board. This board was organized in 1900 under the auspices of the Association of Colleges and Preparatory Schools of the Middle States and Maryland. In 1902 its membership was extended to New England under the auspices of the New England Association of Colleges and Preparatory schools, and in 1903 its membership was extended to colleges and secondary schools in all parts of the United States. In 1910, the tenth year of the board's existence, it conducted examinations in nearly 200 cities and examined almost 4,000 candidates for admission to seventy-one colleges and universities. It is of interest to note that more than one-half of the candidates examined sought admission to institutions which regularly admit students on the so-called certificate plan. These candidates, however, were unable to present certificates, or if they did, their certificates could not be accepted under the rules of the institutions concerned. In the list of institutions which for one reason or another last year required candidates to take examinations under the College Entrance Examination Board appear the names of several medical colleges. I may mention the Long Island Medical College, the Jefferson Medical College, the Cornell University Medical School, and the College of Physicians and Surgeons of Columbia University.

I cannot refrain from availing myself of the opportunity to set forth in a few words some of the fundamental principles which characterize the College Entrance Examination Board and its work.

*Read before the seventh annual conference of the Council on Medical Education of the American Medical Association, Chicago, March 1, 1911.

COOPERATION BETWEEN SCHOOL AND COLLEGE

Standing at the point of contact between the secondary school and the college, the board recognizes as first in order of importance the principle of cooperation between school and college. The board represents a cooperation between the colleges on the one hand and the secondary schools on the other in respect to a matter of vital importance to both. Not only the colleges, but also the secondary schools should have, and do have, a voice both in framing and administering the policies of the board.

UNIFORM REQUIREMENTS

In the second place, the College Entrance Examination Board does not itself assume power or claim a right to formulate definitions of the requirements for admission to college. Those definitions that have been adopted by the board have been drawn up and recommended by representative bodies of teachers recognized as having authority to speak for the subjects concerned. As a result, the requirements adopted by the board possess the two important characteristics of uniformity and stability. They can be altered only when the desirability of change has been approved by a properly representative body of teachers; and any change which is made applies equally to all institutions.

COLLEGE RETAINS ITS INDIVIDUALITY

In the third place, while the board represents a combined effort on the part of many colleges, it is provided that no college shall surrender its own individuality. Each institution preserves the right to enforce such standards of excellence as it pleases or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate issued by the board states merely that the holder was examined at a stated time and place in specified subjects, and, as the result of such examinations, received the ratings entered on the certificate. Each college determines for itself what subjects it will require for admission and what minimum rating it will accept as satisfactory.

SUMMARY OF ADVANTAGES

In conclusion, then, permit me to enumerate the following manifest advantages of the examinations held by the College Entrance Examination Board:

1. They are uniform in subject-matter. An examination in a given subject means exactly the same thing everywhere in the United States.
2. They are uniformly administered.
3. They are held at many points, to meet the convenience of students, at one and at the same time.
4. They represent the cooperative effort of a group of colleges, no one of which thereby surrenders its individuality.
5. They represent the cooperation of colleges and secondary schools in respect to a matter of vital importance to both.
6. By reason of their uniformity they aid greatly the work of the secondary schools. If a class is studying a certain subject, it is no longer necessary to divide the class into groups according to the particular institutions for which the students are preparing.
7. They tend to effect a marked saving of time, money and effort in administering college admission requirements.

THE ST. LOUIS HOSPITAL

DOUGLASS W. MONTGOMERY, M. D.

SAN FRANCISCO

The St. Louis Hospital of Paris is one of the oldest seats of medical learning in the world, and it looks it. Most of the buildings are ancient and, as they lack any of the modern architectural improvements, they must be expensive to run. The food, for instance, is transported long distances in large brass kettles. This must be costly, and, besides, the victuals become cold and flavorless before they reach the patient.

As the old buildings fall out of repair, the economical procedure would be to replace them by new ones. The administration, however, does not seem inclined to pursue this course. A notable exception to this state of affairs, however, is the modern building and complete equipment for treating diseases of the skin in the service of Prof. L. Brocq. This is one of the best plants of its kind I have ever seen, and is run to the best advantage by its competent chief and his corps of assistants.

The amount of clinical material in the St. Louis Hospital is, however, immense, and the physicians handling it, especially those interested in diseases of the skin, are among the foremost men in the world. It is this material and these men that make the St. Louis Hospital what it is.

One of the most interesting clinics is that of Sabouraud for diseases of the scalp.

Sabouraud is perhaps best known by his introduction of the *x*-rays as a depilatory in the treatment of ringworm of the scalp in children. Previous to this innovation the disease formed a serious problem among the school children in Paris. Now there are so few cases that application has been made to allow those from the neighboring departments to come to the St. Louis Hospital for treatment. Ultimately Sabouraud expects ringworm to be reduced to a few sporadic cases. As he expressed it, this method of treatment will do for ringworm what vaccination has done for small-pox.

The first step in this method is to cut the hair with clippers. The scalp must not be shaved, as that would remove the hairs so closely that they could not be extracted by pincettes, a most important point, as will be seen presently. The *x*-rays are then applied until a full dose is given, as measured by the radiometer of Sabouraud and Noiré. The delicacy of this operation will be dwelt on later. After this the hair becomes loose, and can easily be pulled out. Just here is a matter of importance to be observed. The bald patch caused by exposure to the *x*-rays must be examined with the minutest care for any small hairs that may still remain in their follicles, as these may contain some of the fungus, and one hair containing viable spores or filaments is sufficient to cause a recurrence of the disease.

After this epilation the whole scalp is rubbed every evening with a salve composed of:

	Gm. or c.c.
Oil of cade	10
Yellow oxid of mercury	30
Petrolatum	
Hydrated wool fat	āā 25

This ointment is allowed to remain over night, and next morning is washed off with soap. Then a spot larger than the diseased area is painted with:

	c.c.
Tincture of iodin	10
Alcohol	90

A remarkable feature of this treatment is the complete omission of sulphur as a parasiticide; it is replaced by tincture of iodin diluted with alcohol.

Tincture of iodin is now a favorite antiseptic in a great many integumentary diseases, and is also frequently used to sterilize the skin in surgery. For instance, in L. Brocq's clinic, in giving an injection of salvarsan, the skin was first painted with tincture of iodin, and then the needle was inserted. The same procedure is adopted in incising a furuncle. In these cases the tincture of iodin is used pure. It is diluted in ringworm, because undiluted it would be too strong to be employed for several weeks daily, as is necessary in this disease.

The ointment of tar and yellow precipitate is not an essential part of the treatment, and if it irritates the scalp so as to render its employment distressing, it may be replaced by an oxid of zinc paste (5-30).

The soap may also act as an irritant, and should it do so, an egg shampoo may be substituted, as being more bland.

The absence of the use of sulphur has been mentioned as a peculiarity in this treatment. It may, however, be advantageously employed in suitable cases. For instance, if a folliculitis supervenes, the following sulphur lotion may be prescribed:

	Gm. or c.c.
Precipitated sulphur	
Alcohol āā	10
Water	100

The alcohol is an important constituent of this prescription, as by first triturating the alcohol and sulphur together, and then adding the water, the sulphur is better distributed throughout the lotion, and can be more easily shaken up to form a milk of sulphur.

Frequently an ordinary pyogenic infection is associated with ringworm, and then *eau d'Alibour,* Alibour's lotion, is found to be an excellent remedy. I first became acquainted with the use of this lotion in reading Prof. L. Brocq's treatise on diseases of the skin. It is a fine antiseptic, and one long in use by French physicians. It is esteemed so highly, that on my evincing a special interest in it, Dr. H. Noiré, who had charge of the clinic, had the kindness to demonstrate its mode of preparation.

It is composed of:

	Gm. or c.c.
Sulphate of copper	2
Sulphate of zinc	7
Camphorated alcohol	20
Water	1000 to 2000

The sulphate of copper and the sulphate of zinc are first dissolved by trituration with a small quantity of water in a mortar. The camphorated alcohol is also added to a few grams of water and filtered and then poured over the above-mentioned solution of the copper and zinc salts. To this enough water is then added to measure up to either 1,000 or 2,000 gm., according as a stronger or weaker antiseptic is desired.

In former days saffron was also included in this prescription, and long boiling was necessary in order to extract the coloring matter from it. These were the days when the color of a therapeutic agent was supposed to play a great part in its efficacy. Ask almost any modern medical man about the doctrine of signatures, and if he does not happen to surmise you may be talking of some question in medical jurisprudence relating to the forging of bank-checks, he will answer by a blank stare. Yet the doctrine of signatures once played a great rôle in the practice of medicine. According to this doctrine it was thought that rhubarb acted beneficially on the liver because of its yellow color, resembling bile. It is needless to say that leaving out the saffron in the *eau d'Alibour* does not diminish its efficiency. The camphor, however, should not be omitted, as it acts suavely and beneficently on the skin.

The camphor in mass should not be added directly to the water, as it will float and refuse to dissolve, except under long trituration. If, however, it is added as camphorated alcohol, it readily associates with the water.

The *eau d'Alibour* is an excellent antistreptococcic as well as antistaphylococcic lotion, and may therefore be advantageously used in erysipelas and in panaritium.

If a treatment is strikingly efficacious it may also be depended on to have its disadvantages. The *x*-ray treatment for ringworm of the scalp is no exception to this rule. The difficulty of treating ringworm of the scalp by the ordinary methods lies in the thick coating of stout hair in which the fungus lodges. As the affected area is completely denuded of hair by the *x*-ray, the disease then becomes as easy to treat as if on the free surface of the skin. In order to secure this complete denudation, however, a heavy dose of the *x*-rays has to be given—usually about fourteen minutes at 20 cm. The risk of causing an *x*-ray burn is therefore imminent. When the pastilles of Sabouraud, which are placed midway between the target of the tube and the patient's scalp, change color, the current is shut off. These pastilles are made in Germany, England and France, and the delicacy of the operation may be judged by the fact that Noiré drew my attention to the fact that the control tints in the pastilles made in both England and Germany were wrong.

When I spoke to one of the most eminent specialists on diseases of the skin in the St. Louis Hospital of the denudation of the scalp by the *x*-rays, he shook his head and said, "That is a delicate matter." In Sabouraud's clinic they say they never have any unfortunate results with the *x*-ray, but other operators sometimes get permanent baldness. Then there may be burns, but it is not necessary to have a burn to have trouble. In Wickham's Clinic I saw a nevus-like dilatation of the small vessels of the skin that appeared several weeks after exposure to *x*-rays, where there had been no burn.

While in London I mentioned to a skin disease specialist, who used the Sabouraud treatment for ringworm of the scalp, what Noiré had told me of the incorrect control tints in the radiometer as made in England, and got the following interesting explanation: A practitioner caused an *x*-ray burn, and the patient sued for damages. The physician in his defense said that he was guided in his dosage by the tints on the radiometer, whereupon the patient entered suit against the manufacturer and won. As a consequence the manufacturer so changed the tints as to conform to a much smaller dose of the *x*-rays. That the dose as indicated is ineffective did not trouble him. In England just now there seems to be a mania for making any one who has any money responsible for anyone who has nothing. That line of conduct has its disadvantages, however, as above shown by the example of the radiometer.

In order to get a just idea of the enormous skin disease material passing through this hospital it is necessary to attend the general admission clinic. Here the patients, stripped to the waist, march in line up to the examining physicians. There is no attempt at history taking; the diagnoses are of the speediest; and the few words relating to treatment are given with equal haste. It is an embarrassment of riches, and amounts to a great evil, as it induces a habit of making snap diagnoses.

Two parasites play the leading rôles in this procession, the *Spirochæta pallida*, and the itch-mite. If the patient has syphilis, he is asked if he wishes to enter the hospital, and if he has scabies, the physician inquires if he is married or single. If the patient is married, he is advised to include his wife and family in the treatment. The necessary questions and commands are uttered with the automatism of a church service, and the whole affair passes along with cinematographic rapidity.

It is easy, however, to be a critic, especially an adverse critic. Every one should be judged by what he has accomplished, and undoubtedly the French are doing a good day's work in medicine, and especially in diseases of the skin.

It is interesting to watch these long lines of almost naked human beings advancing toward the physician, who is to order for one tar, for another mercury, for another resorcin, and for still another sulphur as an amelioration or a cure. In Genesis it is stated man is made of clay. Human beings are, therefore, according to this view, nothing but animated pottery, and on the surface of these stronger or weaker vessels one may see different designs; on one a patchy scaliness indicating psoriasis, and on another papules curiously formed and arranged, spelling out clearly the diagnosis syphilis; in yet another, lichen; and in still another, pediculosis. It must be said that these spots and splashes of color, and rococo outbuddings are more fantastic than artistic, but their correct interpretation becomes, after a time, as interesting as any game or employment in which the perceptive faculties are actively called into play.

The physicians here are the same as in other parts of the world, in that they do a great deal of good work gratuitously, but in following St. Paul's advice to distribute to the necessity of saints, they find that the comforted saints often exhibit a frail side. As an instance of this, I ran across a curious industry in the St. Louis Hospital. A patient would apply for treatment, and receive the appropriate medicine free of charge. Then he would promptly march off to a drug-store and sell it. Those suffering from syphilis are said to be particularly iniquitous, and the little proto-iodid of mercury pills are easily disposed of. It may be objected that these are not saints, but in truth they are, for repentance is of the very essence of sainthood, and fittingly to repent it is necessary first to accumulate a good stock of sin, together with a good admixture of misery. The well-fed, comfortable sinner, like the king in Hamlet, stops short of complete repentance, and therefore cannot attain the crown of sainthood. It is to these shattered hulks, dismasted and battered by the storms of life that Rabelais dedicates his great book. It was such as these that stirred the sympathies of the greatest Scotchman that ever lived, and inspired him to write the great poem, "The Jolly Beggars." Many of the patients in the clinic of the St. Louis Hospital looked as if they could eat a dinner, and without waiting for the recommendatory preface of a benediction either.

323 Geary Street.

Medical Inspection of Schools.—Medical inspection is becoming a vital part of every modern system of education. To obtain valuable results accurate data are necessary. It is essential that thorough supervision be made by a state medical inspector, who should be a medical man. A state association of medical inspectors should be formed. Permanent efficiency will require skilled workmen, careful administration and adequate remuneration. W. J. Lamson, in *Journal of the Medical Society of New Jersey.*

THE TEACHING OF VISCERAL ANATOMY, OR ORGANOLOGY

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Medicine as a science is yet in its infancy; its composite development, its evolution, forms a steadily increasing curve, but each of its component parts form irregular curves with frequent rises, falls and stationary levels, when historically considered. The close of the last century marked the completion of a period of rapid development in surgical science, during which it was, perhaps, eminently desirable that the medical student should view anatomy with exaggerated reference to its surgical importance.

The beginning of the present century offers promise of an equally important development on the side of internal medicine. The former necessity is now superseded by the latter, and for the internist an accurate and extensive familiarity with visceral anatomy is of fundamental importance.

If there was a time when students could be allowed to devote weeks to the careful dissection of an arm or a leg and then for want of time pass cursorily over the abdominal contents and perhaps fail entirely to open the thorax, cranium or spinal canal, that time is past; the demands of the internist in the present generation call not only for careful visceral work in the dissecting-room but for an amplification of that course by such methods as shall result in accurate conceptions of living structure, which in turn can result only from the familiarity obtained through extensive first-hand acquaintance with the tissues themselves. It is for the satisfaction of these demands that courses modeled along the lines which I am about to indicate must be offered to the medical student of to-day.

The form, position and external relations of the organs are best observed in the "fixed" material of the dissecting-room, and if only recently prepared or carefully preserved tissue is used, the conception in the mind of the student will be well formed. But it is essential that the tissue be perfectly preserved and that the dissection shall be so rapid and careful as to allow no opportunity for excessive evaporation with coincident changes of color, texture and size. Even at its best, preserved dissecting-room material will show considerable changes in color and some hardening of texture. Material which has lain for weeks on the table during the dissection of the limbs and body wall, unless it has received the best of care, is not entirely satisfactory for the proper study of the viscera. To obtain the best results from the standpoint of organology a body freshly prepared by injection should be brought directly from the preparation room, its paries at once opened, as at autopsy, and its viscera carefully surveyed, as rapidly as is consistent with thoroughness, first for their position and general relations and then for form and structure. Such organs as are not badly altered by disease should then be removed, their connections to paries and to adjacent organs and especially their vascular connections being carefully noted; then their surface markings are to be carefully observed and their architecture thoroughly studied. Even at the loss of some material the finer details of dissection involving the topographic anatomy of the organ will be better pursued on other material.

But even at its best, dissecting-room material only partially fulfils the requirements of an accurate concep-

tion of the living viscera. Accurate conceptions and exact knowledge of any matter are obtained only by intimate first-hand acquaintance with the material. Abundance of opportunity for handling anatomic material should be afforded the student; no source of supply should be neglected. A course in organology is therefore incomplete unless it utilizes an abundance of fresh tissue, which only the autopsy room can supply. Since the nearest approach to the actual living organs obtainable for anatomic study is found in the human tissues at autopsy, and in the fresh tissues of the lower animals, both of these sources should be extensively utilized for the purposes of organology.

The recently dead animal presents organs, to all intents and purposes, in a living condition. In certain cases their cells can be transplanted and caused to grow; indeed, they may even be cultivated extraneously as has been demonstrated by R. G. Harrison and others.

The fact that the lower mammalian organs differ anatomically from the human is not an objection to their utilization, for, indeed, the very differences may often be used to broaden the conception of human structure. The fact that the sheep's kidney is lobulated, or that the kidney of the horse or dog has but one pyramid does not detract from the value of either in demonstrating the structural relations and appearance of the living human kidney, and if properly utilized they respectively elucidate a logical conception of the markings on the surface and the contents of the sinus of the human organ. Again, the objective study of the surface markings of the adult human lung is difficult of interpretation without reference to the child, the infant, and the lower animals.

But while lower animal tissues may be of great value in the demonstration of certain structural features they cannot be relied on as material for any great portion of such a course as is under discussion. Human anatomy must be primarily taught from human material. The handling and study of unaltered human material from the autopsy room offers the most valuable instruction to the anatomic student.

The utilization of this source of material cannot be left till such time as the student may pursue his work in the autopsy room under the instruction of the pathologist, for there he will be concerned, not with anatomic details, but with pathologic lesions, and his facility in pathologic study will largely depend on the accuracy and fulness of his anatomic conceptions, and on his familiarity with the structure and appearance of the normal rather than diseased viscera.

The result of a pedagogic experience of some years has convinced me of the fundamental importance of anatomic instruction based on fresh human tissue. A student of anatomy cannot see too much material of this kind; he should use it for most careful study.

Much normal tissue is removed at autopsy by the pathologist; with proper cooperation it should find its way, while still fresh, to the department of anatomy. A course in organology based on such material, amplified by the use of lower mammalian and other animal tissues, by museum specimens carefully prepared to preserve form, color, and to show the vital appearance, as nearly as possible, of certain special features of anatomic structure, and the whole broadened by coincident demonstrations on dissecting-room material which has been carefully and freshly prepared with organs fixed *in situ*, offers to the student of anatomy a well-nigh ideal opportunity for developing an accurate conception of the human body as it actually exists in a functionally active condition.

That such a course is utopian is not true. The fact that just such a course has been offered for the past three sessions in the laboratories of the Cornell University Medical College demonstrates its feasibility. The essentials are some time and energy on the part of the corps of anatomic instruction, and a very little friendly cooperation on the part of the pathologists. The time demanded from the student is little, because what is consumed in actual work renders so rich a return in improved knowledge of structure and of general, fundamental, anatomic characters that the work of the dissecting-room, and especially of the microscopic laboratory may thereby be very materially abbreviated. For this reason such a course in organology is best taught in connection with microscopic anatomy and the work so correlated that the gross anatomy of the organ immediately precedes its histology.

The consideration of the value of a course in organology on the above lines directs attention at once to certain phases of the relative value of the didactic and laboratory types of instruction. The value of the former type depends on the assumption that known facts are more readily obtained by the novice through the recorded observations of his predecessors, while the laboratory type presupposes that an accurate and utilizable knowledge must result only from personal contact with the object of study.

For this last type of work a progressively increasing value is represented by the book, the model, and the actual material. Given unlimited time and unlimited material, a trained student has little need of other sources of information. But for the great bulk of medical students time in the laboratory is not unlimited; hence the intensity of the laboratory work is greatly enhanced if accompanied by ample opportunity for reading and reflection in study hours. In the course which I have hitherto offered, the work of the student is also greatly facilitated by the use of a brief syllabus which indicates the names of structures of anatomic interest, without comment or description, arranged in the order in which they are uncovered.

With such opportunity it is remarkable how rapidly an accurate systematic conception of an organ may be acquired. In the laboratories of the University of Chicago it has been found that the study of the human brain is not only simplified but accelerated by a preliminary examination of the less complex nervous system of the dogfish, and the course is therefore begun with the dissection of the selachian nervous system. A true conception of the general fundaments, the gross divisions of structure as it were, renders the more intricate and complicated system so much more readily mastered as to result in an actual saving of time to the student as well as in a more utilitarian knowledge of the subject.

Likewise, in my laboratory at the Cornell University Medical College the survey of the fundaments of structure represented by gross organology as outlined above rendered possible an actual shortening of the time allotted to microscopic anatomy, and, far more important, I believe that the student better appreciates the full structure of the organs so studied. It is a matter of observation that he turns from his anatomy to his physiology better prepared to apply his anatomic knowledge to the deduction and explanation of function than was possible under other conditions. When one has studied in the gross the bundle of His and its ramifications, seen it in the fresh tissue, as well as in the dissected specimen and the microscopic section, and all have been properly correlated by coincident study, he has a preparation for

the consideration of heart-block which cannot be obtained by the isolated work of the dissecting-room or the histologic laboratory. When those courses have been correlated by the study of the conduction system in fresh tissue and the transference of bits of known location to the stage of the microscope for verification of structure, the student thus prepared is in full possession of the anatomic mechanism, so far as it concerns the bundle in question, on which the phenomenon of heart-block largely depends.

A course in organology based on fresh material is, therefore, closely related to the work of the microscopic laboratory, and for him who pursues it the utmost of value is only obtainable when the facilities of the autopsy, the dissecting-room, and the microscopic laboratory have been coincidently placed at his disposal. With the organization of broad-minded departments of anatomy with gross and microscopic work provided for under the same head, an arrangement now generally adopted in leading medical schools at home and abroad, such correlation of work appears entirely feasible and eminently desirable.

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THE EDUCATIONAL FUNCTION OF HOSPITALS AND THE HOSPITAL YEAR *

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The central figure in every hospital is, or should be, the patient. Whatever use is made of the hospital as a means of education it should be self-understood that whenever the sick man enters it he has a right to expect and demand the most skilled treatment its staff can offer. We physicians believe that the best treatment will be in the hospital that clearly recognizes its educational function. But if the patient be utilized for the instruction of nurses, undergraduate or graduate medical students, or in the working out of some scientific problem, there must be assurance that his life is not endangered or his health impaired thereby. We may use him as "material," to employ the word that unfortunately has become fixed in our medical vernacular, but not as we use a Wheatstone bridge, a burette, a test-tube, a guinea-pig or a rabbit. We assert that it is our right and duty to experiment with inanimate apparatus, and—when we are humane—with the lower animate bodies, even though the test-tube break or the rabbit die. But a human being is neither a test-tube nor a guinea-pig. We may study his disease, even experimentally, but we must treat *him* as a fellow-man.

A modern hospital fully awake to its privileges and with the high aim to do the greatest possible amount of good will strive to educate: (1) undergraduates; (2) interns, graduate or undergraduate; (3) resident physicians and surgeons; (4) the attending staff; (5) nurses; (6) research workers; (7) the patient; (8) the public.

I. UNDERGRADUATE INSTRUCTION

Undergraduate medical instruction can best be carried on in a hospital founded primarily for educational purposes, and especially one under the immediate control of a medical school. The student's presence in the ward is not looked on as an intrusion or as due to favoring condescension on the part of the hospital authorities. He is there by right; he makes examinations, acts as clerk in recording changes in the patient from day to day, is laboratory assistant, etc. And yet he is without authority to prescribe for or to treat the patient. He makes no promiscuous examinations. He is watched and guided and does no harm. He follows the case during the course of the illness. A student carefully observing and studying even a small number of cases of illness, even though the maladies be simple, compelled to keep complete records that are scrutinized daily by his superior, has learned more of correct methods and of practice, perhaps more even of fact, than from hours and hours of lectures.

In the majority of our public hospitals the lax methods, the multitude of students, the prejudice against the use of the patient as "material," the politician's fear of criticism, the failure to provide capable and responsible supervision, make students' ward work very unsatisfactory or wholly impossible. Much is often accomplished by means of small-group clinics with the student at the bedside as the case is demonstrated, or by ward walks as in England. And much is done by the arena clinic, no longer popular as of old, but by no means entirely out of date, and still fulfilling a useful though subordinate purpose.

II. INSTRUCTION OF INTERNS

Of the value of an internship in a good hospital, where, in addition to the student's clerical and laboratory work, there is actual responsibility, usually a graded responsibility, i. e., one increasing with his length of service, there is no question. No one who has had the advantage of such a training doubts its value; no one who has not had it but regrets his inability to secure it. The eager competition among our raw graduates for these positions shows the estimate placed on them by our student body.

Sooner or later some period of training—say a year—in a hospital should be required of every student before he becomes a licentiate in medicine. If the time is ripe it should be demanded now. We must command the support of the public in this advance by making them see that if the young graduate does not gain his practical experience in a hospital under the guidance of older heads, and in an atmosphere redolent of traditional medical knowledge handed down from one generation of interns to another, and from one group of attending men to another—and this traditional knowledge is one of the most valuable assets of a hospital—if he does not get his training in this safe-guarded manner before he is a licensed practitioner, he is forced to get it in his private practice on your child or on mine and with no counseling voice of senior to keep him from sins of omission or commission.

The marvel is that so many men with utter lack of hospital training are able to go out and do so well—i. e., do so little harm. Native shrewdness, earnest endeavor, tact, ability to learn quickly from others and from their own mistakes, enable them to succeed in a wonderful manner. How many sad, even fatal, blunders are made through lack of proper practical training no one can tell—it is best not to tell. Even the celebrated Dr. San Grado wished Gil Blas to go about with him for a few days on his rounds of bleeding and drenching his patients with water before the said Gil Blas was to be permitted to practice as the representative of San Grado.

The difficulties in the way of a required fifth hospital year are not insurmountable. More internships must be available to accommodate our large annual output of

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doctors or the number of graduates must be lessened. Why not both? If the efforts made by this association are successful the number of graduates in medicine will be diminished. But the number of hospitals will increase; and many small hospitals now working without interns—and there are large ones, too, in this same condition—will see that it is impossible to get along satisfactorily without these assistants and so more places will be available. But there is another difficulty, and to my mind, by no means an insignificant one. How are these hospitals to be standardized? In general the work of the staff and of the interns, in a hospital with medical college affiliation, is up to the standard of the medical school itself, yet not always. The small medical school with the large hospital at its command can take care of its own graduates and place them as interns. But what about the large medical school with a small hospital? Its graduates must be placed in other, perhaps remote, hospitals. Now there will have to be a good deal of educating of some hospital boards of management and of many medical staffs, taking hospitals as they run, before we can declare that an internship in some of these hospitals meets anything like satisfactory requirements. Many small hospitals, and many large ones, with no medical school attachment would readily be conceded as up to grade. But in many hospitals, some small, some large, some in the small towns and some in the large cities, the intern does little more than give an anesthetic, dress and take the blame for the pus cases, and occasionally examine the urine or sputum. There are no histories, or none worthy the name, no laboratory tests, no thorough examination of a patient. The intern gains a certain amount of self-confidence, often an unwarranted amount which is largely absorbed from the staff, though there is seldom any appreciable loss at the source of supply, he learns not to faint at the sight of blood, learns the dose of a good many drugs, some of which he might well forget, and he learns that an easy, a lazy substitute for thinking is to do an exploratory laparotomy. Such training is superficial, incomplete and in many respects pernicious. The medical school with a high standard for both entrance and graduation must pause before committing itself to a policy of a compulsory hospital year until there is in sight a sufficient number of places in good hospitals where work will be up to grade and where by virtue of authority to inspect and supervise there may be a guaranty that it will be kept up to grade and satisfactory to the college and to the officials of the state. Before a compulsory fifth year is added to our college requirements for graduation a certain standard for hospitals must be fixed and means taken to sustain the same.

III. EDUCATING RESIDENT PHYSICIANS AND SURGEONS

The older I grow and the more I see of surgery, the more convinced I am that the mere holding of the degree M.D., as at present granted, ought not to entitle a man to do surgical operations, at least major operations. The lack of manual dexterity and celerity, the poor judgment as to how much can and ought to be attempted in a given case, the puttering and hesitating due to insufficient self-confidence and to a fear of supposed dangers, or the equally horrible condition of overconfidence and lack of dread, how keenly do all these shortcomings, the result of limited or no practical training, loom up before us when we contemplate an operation to be done on our friend or some member of our own family by one of these poorly qualified young graduates! No surgery, no major surgery at least, no special surgery, should be permitted to the graduate until he has tried it first on dogs; no surgery until as assistant, and perhaps resident, he has for a given time stood at the left and then at the right hand of the surgeon and has himself, with the help of this surgeon, done operations. When the good, honest family practitioner tells you that he is convinced that surgical treatment of appendicitis is wrong, because, in his operative cases, three out of four patients died, including clean cases in which the patients were operated on in the interval, and says that he shall return to the medical treatment which gave him better results, we agree that it is wise for *him* to treat appendicitis medically. But the smile that comes to our faces as we note the delicious humor of his innocent condemnation of self as a surgeon is turned to a sober frown as we realize the pathos and tragedy of the clean cases. Make surgery more of a specialty if you will; let there be fewer surgeons in a given area if necessary; divide the fee—openly—if necessary; but insure more expert work by requiring a special hospital training before the graver operations are attempted. Our hospitals can here do a splendid educational work by giving opportunities to residents and assistants working under the responsible guidance of the older man.

IV. EDUCATING THE ATTENDING STAFF

Of the value of the hospital experience to the member of the staff there is little need to speak. Every physician and surgeon admits freely that the faithful performance of his hospital duties makes him a broader, more careful, more skilful man. There is only one point in this connection that I would emphasize, and that is that those hospitals in which there is a distinct teaching feature will have the best service from the staff, especially in the case of the poorer and charity patients. Nothing so arouses the physician to do his best, to study his patient so thoroughly as the knowledge that that case of illness has to be demonstrated at short range to a class of keen-eyed students. A few bad blunders before a class are all that is necessary to make him more careful next time. And then the rubbing of elbows with our colleagues, the activating influence as the older man is inoculated with the enthusiasm of the young man of the staff, just back from Europe, perhaps—all this is helpful and educational.

V. EDUCATING NURSES

It is not my purpose to dwell on the function of the hospital as a training school for nurses. Its duty in this respect is becoming more generally recognized and the advantages that accrue to the hospital, the patient, the physician, the public, are too well known to be repeated here.

VI. EDUCATING RESEARCH WORKERS

The spirit of research has reached many of our hospitals. Some have been founded with the primary object of promoting research along medical lines. It is to be hoped that more will be liberally endowed so that this highest grade of work may be carried on with the closest possible union between laboratories, as they are commonly termed, and the wards that are also really laboratories. While it is not possible that all our hospitals should be, *sensu strictiori*, research hospitals, while it is not desirable that they should all be of this character, there should be more of the spirit of investigation and reaching out for new truth in our existing hospitals, even those that are utilized for the instruction of undergraduates, interns, residents and attending staff. Unless the spirit of research be in such a hospital and pervade

its various staffs, the educational function languishes and the hospital atmosphere is stale. To be progressive, research must be carried on. It may be in trying out methods advocated by others or devising new and better ones; it may be along lines of therapy, surgical or medical; it may be studying the refinements of diagnosis or the natural history of disease, or in the chemical, bacteriologic or anatomic questions concerned in disease; it may be searching for results that are of immediate practical application or working on problems in pure science where no practical bearing is in sight, but something of this sort must be carried on by the hospital workers or a hospital is not doing its duty in furthering knowledge. And I am of the opinion that our hospitals will be utilized more and more for research work in sociologic problems. There is a rich field for such investigation in many of our wards.

VII. EDUCATING THE PATIENTS

Much might be said of the help our hospitals may bring to their patients in teaching lessons of obedience to authority, consideration for and cooperation with one's neighbors, etc. Lessons of cleanliness and of hygiene are also taught, and surely certain lessons in morality are inculcated in ways as effective as any pulpit eloquence. But this is not the time or place for discussing this topic.

VIII. EDUCATING THE PUBLIC

Nor is this the place to speak of the opportunity many of our hospitals have of educating the public as to matters of personal and public health. By example, by class and lecture work, by literature, by letting the hospital light not be hidden under a bushel, such an institution may be a power for good in the community and be the means of combating the effects of many foolish or even harmful "isms" and "pathies" that are everywhere to be found.

SUMMARY

To summarize these points which have consciously been merely touched on and not dealt with exhaustively —an impossibility in a twenty-minute paper:

It is the privilege and duty of hospitals to extend their field of usefulness by opening their wards more freely to undergraduates in medicine, to elevate the standards of work done by nurses, interns, residents and attending staff, to foster research. By so doing they are not harming the patient, but are rather insuring him better and more skilled treatment. They are serving to enlighten and educate not only the individual, but the observing lay public as well, eager to learn and to be instructed in knowledge of medical matters.

And what concerns us as physicians looking to the elevation of the standards of medical education is that as soon as possible each medical school should have its own hospital in which the wards are freely utilizable for the instruction of undergradutes, in which a definite service in practical work in medicine and surgery shall be demanded as a prerequisite for graduation, in which assistants and residents may be in training for specialties in medicine and surgery and in which the spirit of investigation and research pervades every worker from the probationer nurse to the chief of the attending staff.

Until such medical-school hospitals are obtained the aim should be to secure similar privileges in other good hospitals, seeing to it that some authoritative supervisional check may be had on the character of work that is there done, before credit is given in the medical school for such undergraduate or intern work.

A TEACHING HOSPITAL

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A medical college without a hospital under its control, but relying on independent institutions, cannot supply ideal facilities for teaching medicine. The difficulties may be divided into two groups: (1) The arrangement is not satisfactory to the college authorities from the college standpoint; (2) the arrangement is equally unsatisfactory to the hospital authorities from the hospital standpoint.

I. DIFFICULTIES FROM THE COLLEGE POINT OF VIEW

In order that the arrangement may be satisfactory to the college, its teachers must be connected with the hospital. The professor of surgery must be, *de facto*, surgeon to the hospital. A change in the occupant of a chair in the college must mean that the new occupant acquires, by his election in the faculty, a position on the hospital staff. Only in this way can desirable men be drawn to the college, and the college be allowed the widest freedom in selecting its corps of teachers.

Again, the college must bring up clinical assistants, trained as teachers and as hospital workers; this can be done only where the two institutions are coordinated. The professor of surgery desires an assistant or a demonstrator; he wishes this man to work in the dispensaries of the hospital, to substitute in the wards, to assist at operations, etc. This rarely can be arranged unless the same governing body determines the concurrent election to the two places.

The pressure of medical teaching has reached a point at which adjustment of the curriculum is one of the most difficult problems encountered by a faculty. This obstacle is great enough when the faculty dictates the hours of hospital teaching and arranges the roster, but if the schedule must be made to conform to the convenience of a hospital over which the college authorities have no control, it becomes impossible properly to conserve the student's time. For example, in a certain Philadelphia college with a hospital attached, a professor of surgery may deliver a didactic lecture and immediately thereafter take classes in sections to the hospital; like facilities are extended to every clinical chair. Such arrangements could not be made with any detached hospital. The unity of the two institutions affords the fullest use of clinical material; this applies also to laboratories and post-mortem work, largely because the faculty can select hours for teaching. The board of trustees of the hospital being a sub-committee of the board of trustees of the college, the wishes of the college authorities are respected.

If the college desires to inaugurate some particular line of work as a part of the teaching course, the college hospital may be requisitioned for the necessary facilities, the unattached hospital practically never.

II. DIFFICULTIES FROM THE HOSPITAL POINT OF VIEW

The difficulties in affiliating an unattached or independent hospital with a college without its own hospital are even more trying to the hospital. Independent or unattached hospitals may have entirely capable visiting chiefs who either are not teachers or do not like teaching, or what is worse, may have incapable chiefs who desire teaching and consequently connive and "log-roll" for appointment in some medical college, keeping their hos-

pital positions for the purpose of forcing election to college positions.

A member of the staff of an unattached hospital wishes to bring up his own assistant and rarely chooses a man whose time is partly given to college work unless the chief himself is a professor.

The unattached hospital is wisely shy of college affiliation; its board of governors do not desire to be restricted in their selection of officers and often oppose professorial candidates because of the impression that college work demands too much of their time.

The hospital has another group of objections that are administrative and insuperable.

1. *Expense.*—The teaching hospital is the most expensive institution to maintain. For the adequate instruction of the medical student more than one way of doing many things must be taught. The operating-rooms of teaching hospitals must be equipped for the practical presentation of many and varied technics and modes of treatment. This detail involves the selection of catgut, needles, needle holders and many surgical instruments. Each teacher desires the widest latitude in his selection of means and methods, and in order that instruction of the student may not be narrow the teaching hospital must accede. One of the best and most economically administered hospitals in Philadelphia is unattached. It has one physician-in-chief and one surgeon-in-chief, and although some teaching is done in the surgical department, the expense of supplies is measurably less than in a small hospital in which there are several visiting chiefs, and in which instruction is given on a larger scale.

2. *Nursing.*—The nursing problem in a college hospital is different from that in an independent institution. The Jefferson Hospital has over one hundred nurses, while a neighboring institution, in which teaching is restricted to fixed clinics, cares for as many patients equally well, with a staff of eighty nurses. The college hospital should supply nurses for a number of operating-rooms, and a nurse for each chief in making rounds: at one time there are as many as eight to ten nurses accompanying chiefs in visits to patients. The nurses are better trained in teaching hospitals, but complain of the increased amount of work.

3. *Operations.*—Operating service in the Jefferson Hospital reserved for class teaching requires six operating-rooms, in addition to a private operating-room, and as all are frequently in use simultaneously, a detail of eighteen to twenty-five nurses is required. The operating-rooms must be furnished, equipped and maintained—a tremendous fixed charge.

4. *Regulations.*—The unattached hospital fixes the hours for serving food, for ward-cleaning, bed-making, dressing patients, and other administrative details, and would require the affiliated college to conform to the hospital regulations; the hospital forming an integral part of a college must, as far as possible, adapt these functions to the demands of the student.

5. *Attitude of Patients.*—The unattached hospital is usually sectarian or maintained at public expense; in either case patients may decline to be used for teaching purposes, and the hospital authorities must support such action. Patients admitted to teaching hospitals usually understand that cases will be studied by the professor and his assistants, and demonstrated to students. In the rarest instances only are objections made.

6. *Increased Work.*—The teaching hospital requires a large staff of interns because accurate records, including histories, diabetic charts, blood charts, temperature charts, blood-pressure charts, food charts, etc., must be prepared for presentation to sections or to the entire class. The work thus thrown on nurses and interns is far greater than in an independent hospital, even where as much is accomplished.

7. *Discipline of Students.*—Where the teaching hospital and college are under one control the student must conform to regulations. He may, as in Jefferson, be required to wear a uniform in his hospital service. If he fails to do so he is reported to the college authorities and disciplined. His ward and class duties and his deportment are subject to the supervision of teachers for whom he has the highest respect and to whom he is directly responsible—all of these making for better results.

8. *Special Branches.*—Few general unattached hospitals provide adequate facilities for teaching specialties. Teaching hospitals must be so organized that the special branches receive adequate representation. Special hospitals for these lines of work are rarely available for teaching purposes. Each of the colleges of Philadelphia maintains its maternity department, although there are in the city a large number of fully officered institutions devoted to obstetrics. For properly teaching this branch—indeed, any branch—the didactic and practical or clinical teaching must be correlated and the organization under one head.

The Philadelphia method, an Americanization of the Continental, has never been improved on. The modern hospital is a clinical laboratory; and such a laboratory cannot be under extramural direction any more than any other laboratory. The time has passed when even an Agnew or a Keen could teach anatomy to students of the University of Pennsylvania or Jefferson in a private school of anatomy, and it is high time that medical colleges provide clinical organization, which is as much an integral part of their teaching plants as laboratories of anatomy, physiology, chemistry or pathology.

THE MICROGRAPH: A PRELIMINARY REPORT

AN INSTRUMENT THAT RECORDS THE MICROSCOPIC MOVEMENTS OF A DIAPHRAGM BY MEANS OF LIGHT-INTERFERENCE

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The following report describes an instrument which has many practical applications not only in physiology, but in physical science. Briefly stated the instrument magnifies the minute motions of a diaphragm similar to that of a telephone about 50,000 times and records these movements on a moving photographic film. It is well known that these movements are not perceptible to the unassisted eye, and they are so small that for a time it was supposed that there was no real motion of the diaphragm as a whole, but that the effect was molecular. A microscope which magnifies 2,000 times is considered a high-power microscope, but the magnification obtained in this instrument is twenty-five times this figure.

The word "micrograph," therefore, seems appropriate for this instrument, denoting something which records microscopic movements. The phenomena of the interference of light waves is made use of for the purpose of

obtaining not only the high magnifying power, but something which, by the use of photography, can be made to make its own record by means of the light on a photographic film.

The complete apparatus thus consists of two distinct parts, the instrument proper, and the additional portion required when photographs are to be taken.

The instrument may be applied to the study of any subject in which it is possible to communicate the phenomena to be studied to the diaphragm so as to induce in it a motion corresponding to that being studied. Some results are given in this paper which were obtained with a diaphragm to which the motion was communicated mechanically through the medium of the air. In this manner curves have been obtained not only showing the radial pulse, the beating of the apex of the heart, and the pulse in the jugular vein, but also waves of sound from the human voice.

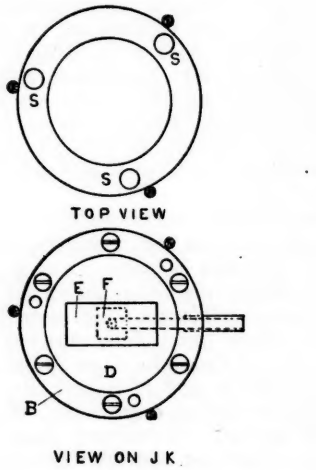

Fig. 1.—The instrument.

The form of instrument by which these records were secured is shown in Figure 1. In addition to the source of light, this instrument connected by a tube attached at the outlet, T, is all that is required for observing the motion of the diaphragm, D. An ordinary tambour is connected to the other end of the tube and placed on the patient, and the motion of the patient at the point where the tambour is applied is transmitted through the air to the diaphragm of the instrument and then, being magnified by the interference of light, becomes directly visible to the eye. Slow movements can readily be followed by the eye, but rapid vibrations require the use of photography.

In instruments heretofore in use the mass and inertia of the moving parts and the distance through which they are required to move have been considerable. Such instruments at the points of most rapid pressure-changes overshoot the mark on the upstroke and then again on the return because of the inertia. The important feature of the new instrument is that it reproduces faithfully all pressure-changes without the disturbing effect of inertia. The mass of the moving part is not only small, and the elastic force of the diaphragm large, but the distance through which it has to move is so small that it cannot be seen to move at all by the unaided eye.

INTERFERENCE METHOD

Carried at the center of the diaphragm, D, is a small reflector, E, which really forms a part of the diaphragm. Just above this and parallel to it without touching it is a cylindrical lens, L, with its plane surface nearest the reflector, E. The adjusting screws, S, are for the purpose of bringing the two surfaces into parallelism. If a

Fig. 2.—Image of circular bands and transverse slit AB, through which the light passes to make the tracings on the moving film. P, etc., are points on the plate marking the disappearance of the bands.

source of nearly monochromatic light is held above the instrument so that an observer sees it by reflection in the two surfaces of the reflector and of the lens, a series of beautiful interference bands will be seen covering the entire surface of the reflector. These bands usually form a series of concentric circles and an image of these is readily thrown by means of a lens on the ground glass of the camera. Figure 2 is an attempt to represent this image of concentric circles as it appears on the screen of ground glass.

If, then, a slit, AB, is placed in front of the photographic plate, so as to cut off all of the light of the image except that which passes through it to the plate, and at the same time the plate is moved transversely across the slit as indicated by the arrow, the several bright spots of

Fig. 3.—Moving bands from which the table of measurements is made and the curve in Figure 4 plotted.

light along the diameter of the image included by the slit would trace straight lines on the plate, and the developed negative would show a series of straight bands from end to end of the plate if the bands remained perfectly stationary. Any movement of the diaphragm, however, changes the distance apart of the two reflecting surfaces, and this has the effect of moving the interference bands forming the image. The bands always remain circles and the center of the concentric circles remains fixed, but the diameter of each circle changes. When the two interference plates approach each other owing to an increase of pressure of air in the instrument each circle contracts and the central circles contract to zero diameter and disappear one after another. Similarly a decrease of pressure separates the plates more and expands the diameter of each band, and bands appear at the center one after another and increase in size.

Hence a simultaneous movement of the diaphragm caused by a variable pressure and the uniform movement

of the photographic plate past the slit will produce a sinuous or wavy series of bands on the plate which might look like those of Figure 2. From this record an accurate curve can be drawn which shows the exact changes of pressure of the air within the chamber of the instrument which were taking place at the time the plate passed the slit. This is done as follows:

HOW TO DRAW A "PRESSURE-TIME CURVE" FROM THE NEGATIVE

When the bands are expanding there comes a time when a new band makes its appearance at the center of the system of circles and as soon as it appears it makes a record on the plate at points which are clearly seen, P_1, P_2, etc. We, therefore, have a succession of records at these points of the times when the diaphragm moves just one-half a wave-length of the particular kind of light used, for each succeeding circle appears only when the two interference plates have separated by exactly one-half wave-length. As the length of a wave of light is accurately known, it is evident that we have determined the time which the diaphragm required to move one-half wave-length, since the plate moves at a known uniform speed and distances along the plate are convertible

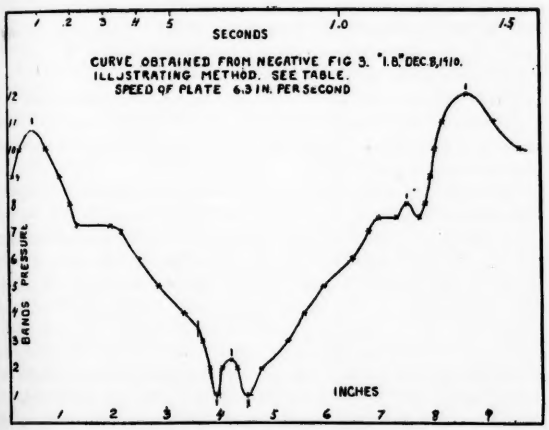
SECONDS
CURVE OBTAINED FROM NEGATIVE FIG 3. "I.B." DEC 8, 1910.
ILLUSTRATING METHOD. SEE TABLE.
SPEED OF PLATE 6.3 IN. PER SECOND
BANDS PRESSURE
INCHES

Fig. 4.—Curve plotted from Figure 3.

into time if we multiply by a constant factor. The process of forming the curve is then to measure the distances to where each band appears or disappears, the second column in the table, and place opposite to each the corresponding number of the band, numbering each band consecutively. The ordinates of the curve then represent distances, the unit being the wave-length of light, through which the diaphragm has moved in the time specified.

TABLE OF MEASUREMENTS ON NEGATIVE
"I. B., Dec. 8, 1910"
6.3" per sec.
See curve, Figure 4

Band	Inches		Band	Inches	
9	.08		2	4.32	
10	.22		1	4.52	Min.
	.52	Max.	2	4.78	
10	.79		3	5.29	
9	1.05		4	5.58	
8	1.24		5	5.95	
7.2	1.35	Level.	6	6.50	
7.2	2.00		7	6.80	
7	2.20		7.5	7.00	Level.
6	2.51		7.5	7.31	
5	2.89		8	7.52	Max.
4	3.34		7.5	7.76	Min.
	3.60	Sharp fall.	8	7.87	
3	3.70		9	7.96	
2	3.82		10	8.05	
1	3.94	Min.	11	8.20	
2	4.05		12	8.65	Max.
2.3	4.22	Max.	11	9.15	
			10	9.62	

To show that these ordinates are proportional to the pressure of the air in the chamber of the instrument we have only to ascertain the relation between the deflections of a diaphragm and the pressure to produce a given deflection. Measurements show that for small deflections such as a few wave-lengths of light, the deflection is strictly proportional to the pressure producing it. Hence

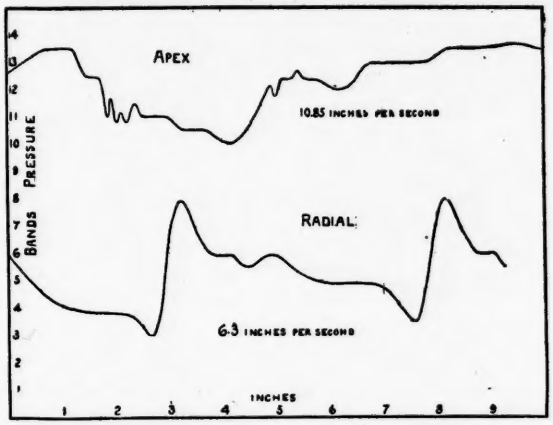

Fig. 5.—An apex and a radial tracing taken at different times on different patients.

the ordinates of our curve are strictly proportional to the pressure of the air within the chamber, and we have constructed a true pressure-time curve. If it were so desired it might be easily calibrated so that the ordinates represent pressures in millimeters of mercury, but this is usually not desired.

By the process indicated the curve in Figure 4 was obtained from the photograph Figure 3, the measurements being given in the table. With some experience, however, it is not necessary to construct such a curve, as it is not difficult to recognize the form of the curve by an inspection of the negative.

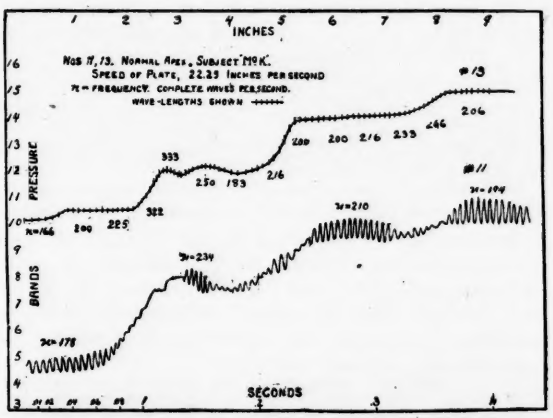

Fig. 6.—A portion of a cycle of an apex-beat. The small waves represent sound varying in both amplitude and frequency. In the upper curve the wave lengths only of the sounds are marked.

RECORDING SOUND WAVES

The highest speed of plate used in taking some of the records was 58 inches or nearly 5 feet per second. To work at these speeds requires an intense light, as the time of exposure is very short, and the negatives obtained grow less and less dense as the speed increases. There is reason to believe, however, that this speed can be more

than doubled and good negatives still be secured. The time of exposure is readily calculated when the width of slit and the speed of plate are known. In this case it was 0.00086 second.

Curves have been obtained by singing the vowels "E" and "O" on the key of G in the second octave below middle C.

THE APEX-BEAT AND THE RADIAL PULSE

The upper curve in Figure 5 shows a tracing of the apex-beat obtained by plotting from the negative as detailed above, and represents about one cardiac cycle, the speed of the moving plate being 10.85 inches per second. The lower curve shows a radial pulse obtained from another subject and shows nearly two cycles, the speed of plating being 6.3 inches per second.

We know of no curves from the lever that approach the details of the events of the cardiac cycle shown in these curves. Figure 6 shows a portion of an apex cycle starting at the lowest part of the upshoot of the upper curve of Figure 5 taken at a speed of plate sufficiently rapid, 22.5 inches per second, to reproduce the sound waves which are superposed on the curve of more slowly varying pressure. We have conclusive evidence that these waves really emanate from the patient and are not due to any instrumental or other outside influence. A vibration of one band or half-wave-length in amplitude is very easy to detect if it were present when the instrument is disconnected from the patient. The bands then appear to remain at rest, but when the tambour is placed on the apex the records show that the amplitude of the waves of sound in some parts of the cycle are as great as one band, and if these were due to other causes they would certainly be seen when the instrument is disconnected. That they are not in the instrument itself is clearly shown by the figure, since the sound wave is continuously changing its pitch or frequency from point to point of the cycle. If the natural period of the instrument itself intruded so as to disturb the record there would be a tendency to vibrate always at some one definite note or frequency.

The conclusive argument is that we get the same variations in the pitch of the sound in using instruments with different diaphragms, and they repeat themselves with remarkable regularity in the various tracings. The same results are obtained with instruments having diaphragms of widely varying thicknesses. The sensitivity of the instrument is changed by substituting a different diaphragm.

THE JUGULAR VEIN AND RESPIRATORY CURVES

In addition to those mentioned curves have been obtained from the jugular vein, and they are compared with those from the bared jugular of a dog. A respiratory curve has also been secured as illustrating the various ways in which the instrument may be applied.

400 West End Avenue.

Differential Diagnosis of Cancer of the Breast.—Hardness and fixity of the tumor in the breast may be caused by a non-malignant condition. Hardness of the breast tumor may be due to a tense collection of fluid; the hardest tumor may be a cyst. A cyst surrounded by mastitis can be as fixed as any cancerous growth. The presence of enlarged glands in the axilla is of little use as an aid in the diagnosis of breast cancer. Except in late cases, it may be quite impossible to feel glandular enlargements. The hardness of the individual gland, and absence of pain on pressure, are important points. Malignant glands are generally discrete and often not of great size.—H. M. Rigby, in the *Practitioner*.

PULSATING EXOPHTHALMOS DUE TO ANEURYSM OF THE INTERNAL CAROTID

W. E. McCLELLAN, M.B., M.R.C.S. (ENG.)

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History.—The patient was P. V., aged 32, a Hungarian. His past history was unimportant. Eight months ago, while at work in a foundry, the machine at which he was working upset, striking him on the chin and throwing him violently backwards. He was unconscious for twenty-four hours. A compound, comminuted fracture of the lower jaw was produced. There was considerable hemorrhage from the mouth and nose, but none from the ears. His attending surgeon wired the fragments and the patient made a complete recovery. Three months later a slight exophthalmos developed, which grew steadily worse and was very marked when the patient was admitted in the eye service of St. Francis Hospital.

Examination.—Nose and accessory sinuses were found normal. The *x*-ray examination was negative. The ear examination was also negative.

Eye: Marked exophthalmos in both eyes, especially the right. A distinct pulsation, rhythmical with the pulse, could be both seen and felt on palpation, also more marked in the right eye. The conjunctiva was very edematous and the veins were markedly dilated. The movements of the eyes were normal in all directions. The visual fields for form were normal. It was impossible to obtain the color-fields.

Vision: O. D. 20/20—3. O. S. 20/30—3.

Pupil reaction normal. Consensual reaction normal.

Fundus: The retinal veins were dilated and tortuous. The nerve-margins were indistinct. The retina was edematous, but the media were clear.

Symptoms of Aneurysm.—The patient complained of a blowing to-and-fro sound in his head, which he could not locate accurately, but which began shortly after the original injury. During the past month it became so loud that it caused him great distress. Up to the present there had been no pain. On auscultation of his head a loud bruit could be heard. It became audible over the bifurcation of the right common carotid and reached its maximum intensity about 1 inch behind the external angular process of the right frontal bone. It could be distinctly heard over the left side also, but not so markedly, and was of a different character and of a higher pitch. By compressing the right common carotid the bruit and the pulsation of the eyes could be made to disappear completely. Compression of the left carotid had no effect on either condition.

Diagnosis.—Taking into consideration the nature of the injury and the subsequent train of events, a diagnosis was made of an intracranial aneurysm or rupture of the right internal carotid.

Operation.—Ligation of the right internal carotid was advised, but the patient refused operation. He was kept under observation for a week and the condition grew rapidly worse. Severe pain developed between the eyes, the exophthalmos increased, the retinal veins became more engorged and tortuous and an early choked disk appeared. The vision dropped to 20/50 in each eye. Operation was then permitted and was performed by Dr. J. B. Boucher.

Postoperative History.—There was immediate cessation of the bruit and pulsation of the eyes and neither has since recurred. In one week the engorgement of the retinal veins and choked disk disappeared and vision returned to normal. There is a very slight congestion of the conjunctiva and no edema. The exophthalmos is slightly reduced, but still marked. This is to be expected, as a passive hyperemia having existed in the orbital cavity for so long a time has probably produced a hypertrophy of the connective tissue there which may be permanent.

I think that, in all probability, a cure has been effected.

125 Trumbull Street.

THE EXCRETION OF SALICYLIC ACID AND HEXAMETHYLENAMIN IN THE SPUTUM *

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PHILADELPHIA

The finding of foreign substances in the expectoration is by no means a recent observation, since bile has been found in the sputum of icteric patients, urea in the expectoration of nephritics and in one case of diabetes, glucose has been demonstrated in the sputum. This very old observation received a new point of view when Falk and Tedesko[1] endeavored to utilize this knowledge as a diagnostic test between inflammations and exudations.

Their hypothesis, briefly stated, is that, if a substance be given by mouth, and if it be absorbed and circulate in the blood, then in those pulmonary conditions in which hemorrhagic exudates are the chief feature of the morbid process, the substance should be found in the sputum. They selected sodium salicylate as the drug to be tested, giving 2 gm. in capsules and collecting the sputum for from ten to fifteen hours. The total quantity of sputum was treated in a manner to be described later. Bronchitis, pneumonia and tuberculosis were the respiratory conditions studied.

In bronchitis, no salicylic acid was regained, while in pneumonia (two cases) it was found in considerable quantities. Salicylic acid was also excreted in the sputum of pulmonary tuberculosis, but not to such a great extent as in pneumonia. They conclude that the giving of sodium salicylate to patients may be of assistance in distinguishing bronchitis from pneumonia. Other substances—antipyrin, guaiacol, etc.—were given by mouth, and all were again found in the sputum—all, however, in much smaller quantities than sodium salicylate.

TECHNIC

The patients receive 2 gm. of sodium salicylate, and the sputum is collected for from ten to fifteen hours. The total quantity is made weakly acid and shaken with five times the amount of 96 per cent. alcohol. The albuminous and mucoid substances are precipitated and then filtered off. The clear filtrate is made weakly alkaline and evaporated on a water bath, the residue taken up in water and made faintly acid and precipitated with lead acetate. The solution is filtered, the acid filtrate shaken with water and an equal volume of ether. The ethereal extract is taken up in 10 c.c. of water and 1 c.c. of a 10 per cent. solution of ferric chlorid is added, when in the presence of salicylic acid a violet color is observed.

We have followed the method of Falk and Tedesko in nineteen patients, grouped as follows, and in no case was salicylic acid regained in the sputum.

Pneumonia	6 cases
Pulmonary tuberculosis (advanced)	7 cases
Angina pectoris	1 case
Carcinoma of the lung	1 case
Failing cardiac compensation	1 case
Bronchitis	1 case
Cardiorenal	1 case
Not diagnosed	1 case
	19 cases

Inasmuch as in many of these cases blood was present, macroscopically, we should have had the most favorable circumstances for the elimination of the drug, if Falk and Tedesko are correct in their hypothesis.

As a result of these studies, however, the conclusion was reached that salicylic acid was of no value as a test in pulmonary diseases, since, if excreted at all, it is eliminated in such small quantities as to make its detection impossible. Moreover, to be of service clinically, the technic of a method should endeavor to combine simplicity and ease of application with accuracy and expediency, and the technic as described by Falk and Tedesko lacks all four requisites. In the belief that, on hypothetical grounds at least, substances should be in part eliminated by the bronchial or pulmonary tissue when diseased, hexamethylenamin was selected as a drug which might be favorably tested.

According to Crowe[2] the drug was first prepared by Butlerow in 1860. It is readily broken up by boiling in an acid medium, liberating formaldehyd, which may be easily tested for. Crowe has found the drug in the bile and pancreatic juice, in the cerebrospinal fluid[3] and also in the milk and saliva. He found the drug to be absorbed rapidly and to remain in the circulating blood for hours.

The absolute safety of administration of hexamethylenamin, and also the ease of detection, were two factors in inducing us to attempt researches on its elimination in pulmonary conditions. Twenty-five grains a day were given and the sputum was collected in bottles for twenty-four hours.

The total amount was put in an Erlenmeyer flask, diluted with water, acidified with sulphuric acid, and distilled, the distillate being collected in water in a cooled Erlenmeyer flask. The distillate was then tested for hexamethylenamin by adding to it 4 to 6 drops of milk and 3 drops of a 3 per cent. ferric chlorid solution and stratifying the mixture after agitation on concentrated sulphuric acid. At the point of contact an amethyst color is observed.

The cases in which this method was tried were:

Pulmonary tuberculosis	9	Bronchitis	1
Pneumonia	1	Asthma	1

and in all of these formaldehyd was found in the sputum. In five of the nine tuberculous cases, the sputum collected after the termination of twenty-four hours contained no hexamethylenamin.

It appears then that a new portal of excretion of this widely used drug has been discovered, in addition to the bile, pancreatic juice, urine, cerebrospinal fluid, milk and saliva. The question whether it is by the last that the sputum becomes impregnated with hexamethylenamin, or whether of itself the sputum contains formaldehyd can be, we think, decided in favor of the latter. In comparison to the amount of saliva that is swallowed the quantity which becomes mixed with the sputum must be very small, and we believe this would not account for the intense color reaction obtained. No quantitative estimations were made of the amount excreted and control examinations showed no such color reaction in the sputum.

Nicolaier,[4] from whom it received the name of "urotropin," Richardson,[5] Churchman,[6] Crowe,[2] and others, have studied the action of the drug on bacteria and have found it of greatest use in genito-urinary and biliary infections. We have not had opportunity to study its

* From the Laboratory of Dr. John H. Musser.

1. Falk and Tedesko: Wien. klin. Wchnschr., 1909, p. 954.
2. Crowe: Bull. Johns Hopkins Hosp., 1908, p. 109.
3. Crowe: Bull. Johns Hopkins Hosp., 1909, p. 102.
4. Nicolaier: Centralbl. f. d. med. Wissensch., 1894, xxxii, 897; Deutsch. med. Wchnschr., 1895, p. 541.
5. Richardson: Jour. Exper. Med., 1899, iv, 19.
6. Churchman: Johns Hopkins Hosp. Rep., 1906, xiii, 189.

action on pulmonary conditions, but believe that it might be used to advantage in certain respiratory conditions.

CONCLUSIONS

As a result of our work we draw the following conclusions:

1. Salicylic acid is excreted, if at all, in the sputum in such small quantities as to make it useless in the diagnosis of pulmonary conditions.

2. Hexamethylenamin, when given by mouth, is excreted in the sputum of tuberculosis, pneumonia, bronchitis and asthma.

3. There seems to be no selective action in the excretion of the drug, and the detection of formaldehyd in the sputum cannot be used diagnostically.

Clinical material was secured from patients of Drs. S. Solis-Cohen, Riesman and Ashton of the Philadelphia General Hospital, Dr. Landis of the Phipps Institute, and Dr. Musser of the Presbyterian and University hospitals. To these gentlemen and to Drs. Rehfuss and Jackson, resident physicians in the University and Philadelphia hospitals respectively, we wish to express our thanks for cooperation in this work.

248 South Twenty-First Street.

AN OBSCURED ALCOHOLIC MULTIPLE NEURITIS IN A CASE APPARENTLY OF FRANK OPIUM ADDICTION

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PITTSBURG, PA.

History.—Nov. 20, 1910, Miss M., aged 32, was brought in an ambulance to the hospital for treatment for drug addiction —"the laudanum habit," she phrased it. She complained of nervousness, diarrhea and vomiting. The picture presented was emphatically that of the opium addict: the facies typical, narcomania pronounced, atrophy of breasts, cessation—for more than a year—of menstruation. There was no history of alcoholism.

Personal History.—The patient was one of a family of four children; family history negative except for alcoholism in the father. She appeared fairly well nourished and no organic lesion was evident. She could stand on her feet for but a few minutes at a time and was ataxic. She was unable to sleep and suffered with severe abdominal cramps, except when under the influence of the narcotic. She had a poor appetite, having been a small eater since using the drug in large amount. She seemed possessed of good intellect, but stated that she was in a continuous state of terror, agitation and foreboding. She expressed great remorse on account of her habit, but was afraid she would die if the drug were discontinued.

History of Drug Habit.—Fifteen years previously, on advice of a fellow sufferer from dysmenorrhea, the patient began the use of Squibb's Diarrhea Mixture. Thirty drops was the original dose, taken several times daily during the menstrual period. This was continued for one year. Then an increase of dosage ensued with a more or less continuous use of the mixture. A gradual increase in amount and decrease in intervals followed and during the previous six years the patient had been taking from 4 to 6 ounces of the preparation daily. She was getting the equivalent of from 3 to 4 grains of morphin every day.

Treatment.—A rapid withdrawal of the drug was indicated and was instituted the second day after admission. On the third day of treatment her narcotic, as well as the occasional substitution of morphin, was discontinued. Veronal was used during the following week, when sleep came naturally. Toward the end of the second week, the patient began to show considerable restlessness and complained of numbness and burning of hands and feet; gradual loss of power in both soon followed, with great tenderness over the nerve-trunks and muscles of the extremities. The diagnosis of multiple neuritis was now made; but just why it should have occurred was difficult to explain, until the large alcoholic content of the diarrhea mixture was recognized.

Squibb's Diarrhea Mixture[1] consists of the following:

Tr. opium	m. vi.	(content of alcohol, 91 per cent.)
Tr. capsicum	m. iii.	(content of alcohol, 48 per cent.)
Spts. camphor	m. vi.	(content of alcohol, 93 per cent.)
Chloroform	m. iiss.	(content of alcohol, 1 per cent.)
Alcohol	m. xivss.	(content of alcohol, 95 per cent.)

Total alcoholic content, 83.1 per cent.

In the mixture the patient had been getting, for six years, from 3 to 4 ounces of alcohol daily. The patient's inability to stand and her ataxia, mentioned in the history, now became significant as of alcoholic origin. These had been, in the first diagnosis, passed over as merely symptomatic of opium addiction, the case seemed to be so clearly one of that addiction alone. On closer investigation into the history of the case, the significant fact was now brought out that on the morning before admission the patient had been frightened into hurrying to the hospital, because on attempting to get out of bed her legs had refused to support her. This fact, had it been known, would have pointed to an oncoming neuritis, of probable alcoholic etiology. The seemingly well-nourished condition of this patient, unusual in an opium habitué with a habit of such long duration, seemed now attributable to the food value of the alcohol regularly consumed.

Outcome.—The neuritis progressed rapidly; complete paralysis of hands and feet, with characteristic hand- and wrist-drop, was present at the end of the third week. Muscular atrophy of the extremities became progressively more marked to the end of the third month. Most of the classic symptoms and signs of multiple neuritis, involving sensory, motor and trophic centers, appeared during the course of the disease. Mental symptoms were not present, nor did any joint adhesions occur. The patient slept well, ate heartily, and was cheerful. Two months after the onset, faint motor power became possible in the index-finger of the right hand. This inaugurated a gradual return of muscular ability, which has advanced steadily but slowly to the time of making this report —four and one-half months from time of the patient's entrance to the hospital. The ankle-drop was still complete, but on April 1, for the first time, the patient was able to stand, being partly supported by the nurse. The weight increased steadily during the previous six weeks, the muscles were regaining their former size, menstruation was reestablished five weeks after treatment began and recurred normally, and the breasts returned to more normal size. The original tremor of hands and tongue disappeared, but the deep reflexes (notably the plantar and patellar) were still completely absent. The urine on admission contained hyaline and granular casts (not in great numbers), acetone and albumin; on April 4 it was normal. The hemoglobin ranged between 80 and 85 per cent.

This has seemed to me to be an especially interesting case, owing to the etiologic factors which may have contributed to the inducement of the neuritis. The patient's anemia, produced by the opium, presented favorable soil for the development of neuritis; and in addition to the deleterious effects of this drug on metabolism, we must take into account the probable injury produced by the chloroform in the mixture. An amount of chloroform varying from 1 to 2 drams was ingested daily. Now, any substance which interferes with the oxygenizing processes of the blood, must lower resistance to other toxic substances such as alcohol. In the blood chloroform is carried, for the most part, by the red cells, and is said to retard the reduction of oxyhemoglobin (Cushny). It is well known that chloroform will produce fatty degenerative changes throughout the body, its effects on metabolism resembling closely those of phosphorus poisoning. It is to be noted, too, in connection with this case, that the effects of this drug are especially marked

1. Based on N. F. The formula differs slightly in Squibb's "Materia Medica."

when it is taken into the stomach because of the slower absorption and consequent more prolonged action. An additional reason for emphasizing the chloroform factor is the fact that it belongs to the same narcotic group as alcohol—the methane series—and produces similar effects.

116 Dithridge Street.

MYASTHENIA GRAVIS

FRANK W. ACKER, M.D.

DENVER

I am reporting this case because of the rarity of the disease and to assist the profession in the diagnosis, should they meet with this condition. Some text-books do not mention it.

It is, as the name implies, a grave asthenia or fatigue of the musculature of the body, due to an exhausted condition of the nervous system. In this case, I did not make the diagnosis, but thought it a case of bulbar paralysis, so I called several consultants to help me out; but none of them had ever heard of such a condition, until Dr. Hall was called. He immediately recognized it as myasthenia gravis.

ETIOLOGY AND PATHOLOGY

The etiology is obscure, but several theories are held. One theory is that it is produced by a toxin in the blood which causes the fatigue. Another theory is that it follows infections which cause a toxic neuritis. Link believes that it is due to lymphorrhagia into the muscles, interfering with the lymphatic circulation, thus preventing the removal of fatigue products; but the majority of men seem to support the toxic theory.

The pathologic changes are mainly in the muscles, the nervous system being apparently normal in most cases. There occurs between the muscle fibers a lymphorrhagia, consisting of small lymphoid cells about again as large as red blood-cells; occasionally cells of larger type are found.

REPORT OF CASE

Patient.—M., aged 16, white, was of negative family history. The patient was a well-built girl for her age, with good color, and a well-developed body. She had always had the best of health until March, 1910. At that time she attended a dance in a very light gown, came out into the cold air in a very heated condition and rode home several miles. Since that time the symptoms enumerated below appeared and grew rapidly worse.

Symptoms.—Diplopia, ptosis of upper lids, difficult swallowing and chewing, collection of food in the cheeks, inability to control movements, especially after any kind of exercise; difficult respiration and tachycardia; difficult speech and pronunciation; weakness of neck muscles, causing the patient to rest her head against something; inability to cross knees; a lack of ambition and complaint of becoming tired after any small amount of exercise.

Course of Disease.—The patient's muscles became stiff, and it became more difficult for her to perform any movement. She felt very much better in the morning after she had rested during the night. The urine was negative. The patient died from dyspnea and cardiac failure the same night that Dr. Hall was called in.

DIAGNOSIS, PROGNOSIS AND TREATMENT

I regarded the case as one of bulbar palsy, as it had so many of the symptoms of that condition; in fact, bulbar paralysis is a part of this disease. Besides the typical symptoms of this disease, in the diagnosis the myasthenic reaction can be used, which consists in the electrical examination of the muscles. If a rapidly intermittent current be applied to the affected muscles, they respond well at first, but rapidly the contractions become less, until there is no response; this according to the degree of asthenia in the affected muscles.

The prognosis in these cases is, as a general rule, unfavorable. From one year to two years is the usual length of time the patient lives. My patient, from the time of the first symptoms, lived nine months.

In the treatment of this condition the following points should be observed:

1. All infections and toxic agents should be removed. 2. The patient should take rest. 3. Special attention should be paid to elimination. 4. Tonics such as strychnin and arsenic should be administered. 5. The diet should be of the highest concentration and easy of mastication, as the patient cannot chew and swallow well.

St. Joseph's Hospital.

OPERATION FOR PEDUNCULATED EXOSTOSIS OF THE EXTERNAL AUDITORY MEATUS

S. B. MUNCASTER, M.D.

WASHINGTON, D. C.

Exostoses of the auditory canal are at times as hard as ivory; it is almost impossible to cut them with the sharpest instrument or to drill them with the keenest burr.

A simple and easy method is to make a notched tooth saw out of No. 1 snare wire, or No. 1 piano wire. A piece of such wire twelve inches long is placed on a hard board and nicked obliquely one inch in the center of it, about 100 times. For this purpose, a sharp, heavy knife is used, the blade of which is not brittle. This will make sharp teeth that will saw through the hardest bone.

An application of cocain, 4 per cent., and solution of epinephrin, 1 to 1,000, is made to contract the tissues and for local anesthesia. The canal is washed with solution of bichlorid of mercury, 1 to 5,000, using an ear syringe.

The wire tooth saw must be adjusted around the growth with an ear snare handle. After it is adjusted the assistant holds the wire in place while the operator withdraws the snare handle. The ends of the wire are then twisted around two pieces of wood—one and a half inches long and about one-fourth inch in diameter—for handles.

The base of the growth is then sawed through and removed with a pair of forceps. It is advisable to saw slowly to prevent heat and breaking of the wire. When the base is wider than the body of the growth this wire tooth saw will not be of any service.

If the patient is disposed to be nervous, an anesthetic should be administered.

907 Sixteenth Street.

Intracranial Complications of Middle Ear Disease.—A point of importance in diagnosis of intracranial complications secondary to middle ear disease, says W. Taylor in the *Practitioner*, is that when sinus infection is associated with any other intracranial complication, such as cerebral abscess, the phenomena of the sinus infection predominate, and signs characteristic of the other complaint will only manifest themselves after the sinus trouble has been removed by operation.

Therapeutics

ACUTE ENTERITIS OF ADULTS AND OLDER CHILDREN

There is perhaps danger of over-refinement in giving separate descriptions to disorders affecting different localities of the digestive tract. There are mentioned gastritis, duodenitis, jejunitis, ileitis, typhlitis, colitis, sigmoiditis, and proctitis, but three divisions are certainly convenient; gastritis, enteritis and colitis. While these are not mutually exclusive, the symptoms indicative of disorders of these three divisions of the alimentary canal are certainly distinctive. Duodenitis may be associated, and often is, with gastritis, and enteritis and colitis also are closely connected.

It may also seem an excess of refinement to give separate descriptions to enteritis as it occurs in individuals of different ages, but the disease as it affects infants is so different in its etiology, symptomatology and management from enteritis affecting older children and adults, that to discuss them separately is not only convenient, but practical.

The common causes of acute enteritis are the ingestion of an excessive amount of food, or of food which is not in proper condition to be eaten. In this latter class are included unripe fruit, over-ripe fruit, vegetables, meats and other articles which are not fresh or which may have already commenced to undergo decomposition. It may also be caused by a chilling of the surface of the body, such as becoming uncovered in bed at night when an open window allows the wind to blow on the body, or by chilling of the feet through dampness or through inadequate shoes and socks. Various forms of secondary enteritis, such as may be observed in typhoid fever, cholera, and tuberculosis, must be mentioned in order to make the account complete, but these secondary types will not be discussed in this connection.

The most common and the most important symptoms of acute enteritis are pain and diarrhea. Either of these symptoms may appear before the other, or they may appear coincidently. Other characteristic symptoms are tenderness over certain portions of the abdomen, distention of the intestines with gas, and rumbling noises or borborygmi caused by the movements of gas and fluid from one part of the intestines to another.

When a physician is called to a patient suffering with pain and diarrhea, the first question which arises in his mind is whether to relieve the pain at once by administering an anodyne, or to remove the cause of the trouble by administering a cathartic. If the disease is due to the eating of an excessive amount of food or to improper food and the diarrhea has not been so abundant as to render it probable that the original offending matter has been thoroughly removed from the intestine, and if the pain is not severe, it is certainly wise to commence treatment by the administration of a cathartic. The best of all drugs for this purpose is castor oil, which may be administered in a dose of 15 c.c. (½ an ounce, a tablespoonful) in black coffee or in lemon juice. If for any reason (as, for example, a great distaste of the patient for the drug) it seems better to give some other medicine, the sulphate of magnesium may be selected. This may be given in a dose of 15 grams (½ an ounce) with a little ginger and water, and should be repeated in three hours if in that time it has not acted thoroughly. A dose of calomel (2 or 3 grains) with bicarbonate of sodium (from 5 to 10 grains) may be given instead of the above, if deemed advisable, but for the condition described the castor oil, or Epsom salt, or Rochelle salt is better. After the intestine has been well emptied, or at the beginning of treatment, if the pain is excessive, morphin should be administered for the relief of the pain. If the pain was so great that it has seemed wise to give an anodyne before giving the cathartic, a hypodermatic injection of ¼ grain of sulphate of morphin and 1/150 of a grain of sulphate of atropin may be given to an adult. Another hypodermatic injection of morphin alone, ⅛ of a grain, should be given in an hour, if the pain is not entirely relieved. After the pain has been relieved and after the patient awakens from sleep, if this has followed the hypodermatic injection, the cathartic should be given in accordance with the principles already laid down.

If the pain is not severe, or if, for any reason, it seems unwise to give the patient morphin, other drugs may be employed. The spirit of chloroform is useful for this purpose. It may be combined with other carminatives and anodyne drugs, as, for instance, in the following prescription:

℞	Gm. or c.c.		
Spiritus chloroformi.....	5		fl. ʒiss
Tincturæ cardamomi comp.....	25	or	fl. ʒi
Spiritus vini gallici.....ad	100		ad fl. ʒiv

M. et Sig.: Two teaspoonfuls, in water, every hour.

While these medicines are being administered internally, or while they are acting, external applications should be made to the abdomen. Perhaps nothing is more useful than a mild mustard paste, made in the following way: Mix two tablespoonfuls of flour with sufficient hot water to make a paste, then mix thoroughly with this paste one tablespoonful of ground mustard. Spread this on a cloth and apply to the middle of the abdomen. After this has thoroughly reddened the skin, it may be removed and a hot flaxseed poultice may be substituted for it. If the severity of the symptoms is not sufficient to warrant the trouble involved in the preparation of this application, a rubber bag, partly filled with hot water, may be applied to the abdomen. If this is not at hand, several thicknesses of flannel, heated in the oven, may be applied.

Although all irritation and fermentation may cease after the clearing out of the bowels and the stopping of the peristaltic cramps, still it is generally wise to soothe the irritated membrane with bismuth, and stop fermentation with salol, as:

℞	Gm. or c.c.		
Bismuthi subcarbonatis	10		ʒiiss
Phenylis salicylatis	3	or	gr. xlv

M. et fac chartulas 10

Sig.: One powder every two hours.

In the after-treatment, the matter of food is of great importance. It is wise to withhold all solid food entirely for several hours after the attack and until the intestine has been thoroughly emptied and the pain has entirely ceased. At first only warm drinks should be given. A little warm water may be given at intervals of from one-half an hour to an hour, and a little later warm milk may be given at intervals of two hours. When the active symptoms have entirely subsided, solid food may be administered. This also should be given warm. One of the best forms of solid food for early administration is a soft boiled egg, or a coddled egg, prepared by cooking, after it has been opened, in hot water. Next to this is a small piece of fresh meat; a broiled lamb chop, a piece of broiled steak, a piece of rare roast beef, or roast

lamb may be given. A little later the patient may be allowed stale bread with a little butter, a small baked potato, or a little thoroughly boiled rice. Boiled or baked custard made with milk and eggs may also be allowed. These foods are almost entirely digested in the stomach, with the exception of the rice, bread and potato, and even these are partially digested in the stomach if they are thoroughly chewed. Articles of food which are not digested in the stomach should not be allowed until the patient has thoroughly recovered from the enteritis, and then they should be taken only gradually and in small amounts. Among these foods are included especially fruits and vegetables, which should be taken only after several days, and at first in small amounts and not frequently.

Persons who are susceptible to attacks of acute enteritis should be particular always to protect the body by suitable and adequate clothing. Warm stockings and heavy shoes should keep the feet from the cold and damp ground, and woolen underclothing should be used, except possibly in the very warmest weather in the middle of summer. Care should be taken to avoid unripe and overripe fruit and vegetables, meats and other articles of food which are not fresh. Excessive eating and too rapid eating should always be avoided. The individual who eats a moderate amount of food of good quality and avoids exposure to cold will rarely be troubled with acute enteritis.

WARTS—VERRUCA

A wart is an over-growth of a papilla of the corium of the skin. It consists of one or more vascular loops surrounded and held together by connective tissue which is covered by a layer of epithelial cells. It is common on the hands of young people and on the genital organs of young adults.

The cause of the abnormal growth has not been definitely established. In some instances it appears to be associated with some disturbance of the nervous system. At other times it would appear to be associated with auto-intoxication accompanying constipation. In still other cases, local irritation seems to give rise to it; and in the opinion of some writers it is due to the action of bacteria.

In the majority of persons the presence of a few warts gives rise to so little trouble that they will not devote the time and attention necessary to their successful treatment. In the occasional cases in which the patient really desires to get rid of the trouble, the treatment should be both general and local. If there are evidences of auto-intoxication, as indicated by intestinal fermentation and constipation, repeated small doses of sulphate of magnesium will often prove beneficial. The dose may range from 5 or 10 grains (0.30 or 0.60 gram) for a child to ½ dram or 1 dram (2 or 4 grams) for an adult, given dissolved in water, on an empty stomach, once, twice, or three times a day. If there are signs of intestinal putrefaction, as shown by indican in the urine, a saline alkaline cathartic should not be selected, as it tends to prolong rather than stay the condition. A castor oil purge, then vegetable laxatives should be selected.

In other cases, particularly if the patient is nervous and anemic, Fowler's solution of arsenic may be given in doses of 1 or 2 drops for a child, and 3 or 4 drops for an adult, given diluted in water, three times a day, after eating.

If there is indigestion, as indicated by flatulence and a coated tongue, without constipation, dilute hydrochloric acid, given in doses of from 5 to 10 drops, well diluted with water, after meals, may prove useful.

The external treatment generally proves more interesting to the patient. It is commonly observed that the warts frequently disappear without treatment, perhaps on account of some change in manner of life, or on account of increased cleanliness. One of the most satisfactory methods of treating small warts, when not very numerous, is by direct application, strictly limited to the wart itself, of glacial acetic acid. Sometimes bathing the warts with a strong solution of salicylic acid or of boric acid, or of resorcin, will result in their removal.

In many cases, however, the most satisfactory method is by removing them with a knife, curved scissors, or a curette. If such operative measure is undertaken, the wart and the surrounding skin should be carefully cleansed by means of a bichlorid of mercury solution. The wart may be anesthetized by a spray of ethyl chlorid. It is then seized with a pair of forceps and gently lifted up, when it may be cut off, either with a knife or a pair of curved scissors. It is generally well to curette the base of the wound after removal of the wart. If there is much hemorrhage, it can usually be stopped by pressure, or by the application of a solution of sulphate of iron. If the bleeding stops by pressure, the wound should be touched with phenol (carbolic acid) and dressed with a dry dusting powder, such as boric acid or 1 per cent. salicylic acid in talcum powder. The nitrate of silver stick (or a 25 per cent. solution) may be substituted for the phenol for treatment of the wound left after excision.

When the warts occur about the genital organs they are usually due to purulent discharges, or to excessive mucous or sebaceous secretions. In these cases great attention to cleanliness is always essential. Bathing with a strong bichlorid of mercury solution is useful, but it will frequently be necessary to excise them. An excellent dusting powder for use in these cases is composed of the following:

℞	Gm.		
Zinci oxidi.....			
Acidi tannici.....			
Hydrargyri chloridi mitis..... .aa	5	or	ää 5i

M. et Sig.: Apply externally.

To prevent a return of these genital warts daily bathing with peroxid of hydrogen solution and the free use of talcum powder are generally efficient.

Operation and Sunshine in Treatment of Tuberculous Peritonitis.—The details of seventy-one operative cases are tabulated by Y. Takaki to emphasize the well-known advantages of a long median incision and exposure of the intestine and omentum to the sunlight for twenty minutes after evacuation of the ascites. The temperature may run up after operation for a few days but subsides harmlessly. He does not attempt to operate when the temperature is already high, but waits for it to subside, the final outcome being better. A second operation became necessary in two of his patients, and the nodules and adhesions found at the first operation had all vanished. His communication is published in the *Sei-i-kwai*, March 10, 1911, page 19. His youngest patient was 8 and the oldest 54 years old; in twenty-three of his sixty-seven cases the onset was sudden and stormy, suggesting acute appendicitis or peritonitis in some instances. There was complicating acute peritonitis in one case, extensive intestinal hemorrhage in two. Complicating pulmonary lesions were benefited by the operation in some cases. On the whole the outlook for the ascitic form is seen to be good, and fair for the fibrous form, while there is little hope in the ulcerative form.

STATE BOARD STATISTICS FOR 1910

THE ANNUAL PRESENTATION BY THE COUNCIL ON MEDICAL EDUCATION OF RESULTS OF STATE BOARD EXAMINATIONS

On pages 1566 to 1575 will be found three tables, A, B and C, giving in detail the results of the various state medical license examinations held during 1910. Complete reports were received from all states.

Tables A and B have been arranged so that, read from left to right, they give the results by colleges, showing the number of graduates appearing for examination in each state, whether they passed or failed, the total number examined during the year, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of each school appeared for examination. Read from above downward, they give the results by states, showing the number registered and rejected from each college, the total number examined, the total number registered, the total number rejected and the percentage of rejections. The fact that the majority of graduates take the license examination in the state in which the college is located is shown by the dark diagonal zone made by the grouping of figures, passing from the upper left to the lower right corner of each table. This shows also that the states which harbor low-grade medical schools are themselves the recipients of the greater portion of the ill-trained output of such schools. These tables are worthy of much careful study, for many important deductions are possible.

CAUTION IN FORMING CONCLUSIONS

In making comparisons on the basis of these statistics several factors should be carefully considered. The number examined is important since, if all other conditions are equal, the larger the number of graduates examined, the more accurate is the finding. But other conditions are seldom equal. The number of states in which a school's graduates have been examined is important. The larger this number the more accurate will be the conclusions. Again, the character of the board making the examination and the methods employed are important factors to be considered, since some boards hold very careful examinations and include practical laboratory and clinical tests, or they may mark the papers more severely, while others, especially partisan boards, may be very lenient. In this connection it should be stated that although conditions are undergoing a steady improvement it is still true that the character of the license examination as usually conducted at the present time is such that graduates of colleges conducted largely by quiz-class methods may easily be successful in passing them. Therefore, the statistics herewith presented should be taken only as part of any investigation of medical schools, although it is an important part.

GRADUATES OF ALL YEARS EXAMINED IN 1910.

Table A shows the results for all candidates who took examinations in 1910, regardless of the years in which they graduated. This shows that altogether 7,004 were examined last year, as compared with 7,287 in 1909; 7,770 in 1908, and 7,271 in 1907. Of those examined 18.4 per cent. failed, as compared with 19.6 per cent. in 1909; 21.7 per cent. in 1908, and 21.3 per cent. in 1907.

There were 121 medical colleges in the United States which still grant degrees and which had graduates examined. Foreign graduates were examined in 20 states, the total number being 108. The largest number of foreigners examined in any state was 41 in New York. Graduates of Canadian schools were examined in 25 states, more appearing naturally in the border-line states. The figures for the Canadian colleges are given separately in order to show the number of candidates coming from each as well as to show the successes of their graduates at the examinations. Altogether 112 candidates from Canadian colleges were examined, of which number 18, or 16.1 per cent. failed. Of all Canadian colleges, the University of Toronto had the largest number examined. Laval University has the highest percentage of failures. There were no failures recorded for graduates from McGill, or from the University of Manitoba.

UNDERGRADUATES EXAMINED DURING 1910

Line 130 of Table A shows the number of non-graduates examined in four states during 1910. Altogether 353 non-graduates were examined, of which number 161 or 45.6 per cent. failed. North Carolina is required by an amendment to its practice act to register non-graduates, who are permitted to practice only in the sparsely settled mountain districts. The open door for these candidates still remains only in Massachusetts, Mississippi, Oregon and Tennessee, and the percentages of failures in these states this year for non-graduates were respectively, 87.3, 70.9, 0.0, and 15.0. The largest number registered was in Tennessee where, out of the 315 candidates registered during the year in that state, 142, or 45.1 per cent., were non-graduates.

RECENT GRADUATES EXAMINED DURING 1910

Table B gives the results for graduates of 1906 to 1910, inclusive, which were examined during 1910. This table is particularly important, since it deals with recent graduates and is, therefore, the fairest basis for comparison between colleges. The fairest estimate of a medical college from the standpoint of failures at state board examinations would be obtained from this table. Of all candidates examined in 1910, 5,678, or 80.7 per cent., were recent graduates, and of this number 14.9 per cent. failed, as compared with 18.4 per cent. for all candidates. The figures for medical schools which have ceased to exist either through merger or otherwise have been included in the line for miscellaneous colleges.

OLD PRACTITIONERS EXAMINED DURING 1910

Table C is so arranged as to show in comparison the results for graduates of all years (first column), for recent graduates (second column), the graduates of 1905 and previous years (third column), and the graduates of 1910 (fourth column). Of the graduates of 1905 and previous years, or "old practitioners," 973 were examined and of this number 283, or 29.1 per cent. failed, as compared with 14.9 per cent. of failures for recent graduates. This high percentage of failures is probably due chiefly to the long time these candidates have been out of college and to the fact that they are required to take the same examination as recent graduates. Justice to such candidates, most of whom have already been licensed, but who, for good reasons, may desire to change their locations, is the strongest argument for interstate reciprocity in medical licensure, or for special percentage allowances at the examinations for years of practice. The total number of these

TOTAL RESULTS
Comparison with Previous Years

Year.	Table A				B		C		A		K	
	Examined.	Total Examined—Passed.	Examined—Failed.	Percentage Failed.	Recent Grads. Examined.	Percentage Failed.	Older Pract. Examined.	Percentage Failed.	Non-Grads. Examined.	Percentage Failed.	Regist'd Without Written Exam'nation.	Total Registered.
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6363	1667	20.7	6250	16.4	793	27.1	703	51.3	1497	7865
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1426	7149
1908	7770	6084	1686	21.7	6477	17.8	796	31.5	494	56.8	1276	7360
1909	7287	5857	1430	19.6	5891	15.4	958	30.0	438	54.1	1373	7230
1910	7004	5712	1292	18.4	5678	14.9	973	29.1	353	45.6	1640	7352

candidates will naturally diminish each year as increased reciprocal relations are established, since, as a rule, the states which do not have reciprocal relations with other states (e. g., California, Florida, Washington, see Table L) examined the largest numbers of old practitioners.

TABLE D.—COLLEGES GROUPED BY STATES
Showing the Number Examined and Percentage of Failures

All Colleges of	Graduates. Of 1910. Number Examined.	Of 1910. Per Cent. Failed.	Of 1906 to 1910. Number Examined.	Of 1906 to 1910. Per Cent. Failed.	Of 1905 and Previous. Number Examined.	Of 1905 and Previous. Per Cent. Failed.	Of all years. Number Examined.	Of all years. Per Cent. Failed.	State Rank According to the Number Examined.	Rank According to Successes at Examinations.
Alabama	56	26.8	81	25.9	2	50.0	83	26.5	20	27
Arkansas	36	33.3	44	34.1	.....	.....	44	34.1	25	30
California	43	9.3	76	14.5	11	36.3	87	17.2	16	20
Colorado	9	0.	14	0.	1	0.	15	0.	33	1
Connecticut	9	0.	24	4.2	4	0.	28	3.6	30	3
District of Columbia	25	4.0	97	21.6	13	7.7	110	20.0	15	23
Georgia	147	7.5	174	13.2	8	50.0	182	14.8	10	18
Illinois	539	8.7	722	12.5	104	21.2	826	13.6	1	17
Indiana	56	1.8	60	5.0	.....	.....	60	5.0	24	5
Iowa	87	2.3	103	4.9	17	23.5	120	7.5	13	10
Kansas	33	0.	37	2.7	3	66.7	40	7.5	26	10
Kentucky	199	19.6	229	23.1	13	38.4	242	24.0	8	26
Louisiana	101	6.9	116	6.9	10	0.	126	6.4	12	7
Maine	22	9.1	24	8.3	8	0.	32	6.7	29	8
Maryland	279	16.5	404	18.1	48	37.5	452	20.1	6	24
Massachusetts	133	9.0	240	15.8	30	20.0	270	16.3	7	19
Michigan	121	1.7	142	2.8	31	16.1	173	5.2	11	6
Minnesota	31	9.7	67	10.4	17	5.9	84	9.5	19	15
Mississippi	15	53.3	23	52.2	.....	.....	23	52.2	31	32
Missouri	360	8.9	461	17.6	49	42.9	510	20.6	4	25
Nebraska	68	1.5	79	2.5	7	28.6	86	4.7	17	4
New Hampshire	7	0.	21	4.8	1	100.0	22	9.1	32	14
New York	271	9.3	475	6.9	54	16.7	529	7.9	3	11
North Carolina	41	36.6	63	42.8	3	66.7	66	43.9	22	31
Ohio	168	8.3	188	10.1	24	37.5	212	13.2	9	16
Oklahoma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oregon	16	12.5	32	15.6	1	100.0	33	18.2	28	21
Pennsylvania	452	5.1	591	6.9	80	10.0	671	7.3	2	9
South Carolina	41	29.3	58	27.6	3	33.3	61	27.9	23	28
Tennessee	287	23.2	410	28.0	56	42.9	466	29.8	5	29
Texas	78	0.	82	0.	3	33.3	85	1.2	18	2
Vermont	17	11.8	30	6.7	5	20.0	35	8.6	27	13
Virginia	74	4.1	101	7.9	11	9.1	112	8.0	14	12
Wisconsin	48	18.7	63	20.6	5	0.	68	19.1	21	22
Totals Examined in 1910	3875	10.7	5331	14.1	622	24.8	5953	15.3	.....	.....

This table gives data relating to the group of colleges in each state. For example, it shows that of all the medical schools in New York 529 graduates of various years were examined by state boards during 1910, of which number 7.9 per cent. failed. Of the 475 who graduated in recent years, however (1906 to 1910 inclusive), 6.9 per cent. failed, while of the 54 who graduated previous to 1906, 16.7 per cent. failed.

The ninth column gives the rank of each state group of colleges according to the number of applicants. The Illinois group of colleges leads, having 826 graduates examined by state boards during 1910, followed by Pennsylvania with 671, New York with 529, Missouri with 510 and Tennessee with 466.

The tenth column gives the rank of each state group of colleges according to the success of the graduates at state board examinations. It is interesting to compare the figures of these two last columns. While the Illinois group ranks first according to the number examined it ranks seventeenth in the success of its graduates at examinations. While Pennsylvania ranks second as to the number examined, it ranks ninth in the success of its graduates at examinations and while Tennessee ranks fifth as to the number examined, it ranks twenty-ninth in the success of its graduates at examinations

GRADUATES OF 1910 EXAMINED DURING 1910

Table C also gives the results for the graduates of 1910 who were examined during the year by state boards, and shows that 3,976 or 56.5 per cent. of all candidates examined during the year graduated in 1910. Educational statistics show that the medical colleges of the United States graduated 4,440 students last year; therefore, about 90 per cent. of all graduates in 1910 took examinations for license during that year. In some of the states graduates in medicine are allowed to serve hospital internships without first becoming licensed practitioners, which doubtless accounts for some of the remaining 10 per cent. Of those examined 432, or 10.9 per cent., failed.

Table C permits of an interesting study of medical schools from the standpoint of state board examinations. For some colleges, the percentages of failures are high for old practitioners but much less for recent graduates and for graduates of 1910. Other colleges, however, show no improvement either for recent graduates, or for graduates of 1910. In the latter instance a knowledge of these colleges, based on a careful study and which included inspections of the colleges, bears out what the figures of this table indicate, that some of these institutions are teaching medicine no better to-day than they did years ago.

RESULTS FOR LARGER COLLEGES
Comparison with Previous Years (Table E).

Year.	Colleges Represented.	Total Examined.	Per Cent. Failed.	Colleges, 100 or More Examined.	Total Examined.	Per Cent. Failed.	Colleges, 50 to 100 Examined.	Total Examined.	Per Cent. Failed.	Colleges, Less than 50 Examined.	Total Examined.	Per Cent. Failed.	Foreign and Non-grads. Examined.	Per Cent. Failed.
1904	149	6241	16.4	14	2271	11.7	28	1817	16.9	107	2153	21.0	794	43.1
1905	153	6411	18.3	14	2350	12.4	37	2543	17.7	102	1518	28.9	759	51.1
1906	146	6938	17.3	16	2504	14.5	34	2381	16.9	96	2043	21.3	1097	42.5
1907	146	6207	13.8	12	1626	12.7	36	2578	14.7	98	2003	13.6	1064	55.5
1908	137	6491	17.2	19	2596	15.6	26	1825	15.5	92	2070	20.8	1270	14.6
1909	149	6341	16.2	17	2476	16.9	27	1920	12.3	90	1945	19.2	946	42.6
1910	121	5953	15.3	17	2379	13.3	25	1791	13.7	79	1783	19.3	573	37.9

STUDY OF TOTALS AND PERCENTAGES

A study of totals and percentages as compared with previous years is of interest. The total examined and the percentage of failures, shown in Table A, are the lowest since the compiling of these statistics was begun in 1904. The total examined in 1910 shows a decrease of 1,031 below 1906, when 8,035 candidates were examined.

Other deductions from the larger tables have been made and are presented in Tables D to M, which are worthy of careful study.

STUDY OF COLLEGES BY STATE GROUPS

Table D is based on the first four large tables and gives the results for the group of colleges located in each state. It shows what states are furnishing the largest numbers of physicians and the failure percentages indicate what kind of training these colleges are furnishing, so far as may be judged from the failures of their graduates before state boards. By comparing the percentages of the first column with the other columns it can be seen whether there has been any reduction in failures for graduates of recent years. Of the 34 states having medical colleges which grant degrees, 15 furnished 100 or more candidates examined. Of these 15 groups of colleges, 6 had failure percentages of less than 10 per cent.; 4 had failure percentages between 10 and 20, and 5

had over 20 per cent. of failures. The highest failure percentage was obtained by the Mississippi group. Of the states having 100 or more candidates examined, however, the highest failure percentage was obtained by the Tennessee group, which had 29.8 per cent., followed by the Kentucky group, with 24.0 per cent. Other deductions are given with the table.

STUDY OF LARGER COLLEGES

Table E is also based on the three large tables and gives the results of state board examinations as they affect the 42 largest medical colleges. Although these colleges represent less than one-third of the medical colleges in the United States, they furnish nearly two-thirds of all the candidates for license. This table shows that the graduation of large classes by a medical college does not prove excellence of teaching since several colleges having 100 or more examined have very high failure percentages and this holds true even for the graduates of 1910. In fact, the larger the college from the standpoint of the number of students and graduates the more serious is inferior teaching ability, indicated by a high failure percentage. In fairness to the medical student, and in the interests of the public, such schools should greatly strengthen their teaching facilities or reduce the size of their classes.

Altogether for these schools 563, or 13.4 per cent., failed, as compared with 19.2 per cent. of failures for the 1783 candidates from the 79 colleges having less than 50 each examined.

Besides the graduates of the medical colleges of the United States, 1,051 candidates were examined, made up of 112 graduates of Canadian colleges, 108 foreign college graduates, 478 graduates of miscellaneous colleges and 353 non-graduates. Of these 1,051 candidates, 384, or 36.5 per cent., failed.

RESULTS IN HOME STATES AND ELSEWHERE

Table F is of much interest, because it shows for each college the results of examinations in the state where the college is located, as compared with the results of examinations in other states, where there is no possibility of local influence. Of all recent graduates examined in 1910, 3,191, or about 60

TABLE E.—COLLEGES HAVING FIFTY OR MORE EXAMINED

TABLE SHOWS TOTAL NUMBER EXAMINED, PERCENTAGE OF FAILURES AND NUMBER OF STATES IN WHICH EACH COLLEGE HAD REPRESENTATIVES

College.	Graduates, All Years.			Graduates of 1906-1910.			Graduates, 1905 and previous.			Graduates of 1910.			Margin Number.
	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	
University of Louisville, Medical Department	236	22.5	27	223	21.5	24	13	38.4	11	194	18.0	19	40
Northwestern University Medical School	206	5.3	20	185	4.9	17	21	9.5	11	136	2.2	11	30
University of Pennsylvania, Department of Medicine	196	2.6	29	164	2.4	25	32	3.1	15	124	1.6	16	100
College of Physicians and Surgeons, Chicago	185	14.1	24	154	14.3	20	31	12.9	15	120	3.3	15	25
Jefferson Medical College	174	4.6	33	149	2.7	31	25	16.0	13	105	0.	20	97
Memphis Hospital Medical College	135	31.1	13	118	30.5	10	17	35.3	9	99	26.3	8	106
Chicago College of Medicine and Surgery	133	12.0	18	131	11.5	17	2	50.0	2	108	8.3	11	23
Rush Medical College	130	7.7	21	90	0.	16	40	25.0	15	65	0.	9	32
Tulane University of Louisiana, Medical Department	120	5.0	16	110	5.5	13	10	0.	8	97	5.2	10	42
University of Maryland, School of Medicine	116	20.7	21	107	20.6	18	9	22.2	6	85	20.0	13	48
Columbia University, College of Physicians and Surgeons	116	0.9	20	100	1.0	16	16	0.	10	43	2.3	7	74
St. Louis University, School of Medicine.—R	109	4.6	14	106	2.8	13	3	66.7	2	90	0.	8	65
Universities of Nashville and Tennessee, Medical Department	109	22.9	21	90	16.7	16	19	52.6	12	53	11.3	10	109
Baltimore Medical Department	108	24.1	25	95	20.0	22	13	53.8	8	57	10.5	11	44
Meharry Medical College	103	42.7	17	99	42.4	17	4	50.0	4	65	36.9	15	107
Tufts College Medical School	102	9.8	10	96	9.4	8	6	16.7	4	61	8.2	5	52
University of Michigan, Department of Medicine and Surgery	101	5.9	16	80	1.2	11	21	23.8	11	67	0.	7	55
Harvard Medical School	99	5.1	25	84	3.6	22	15	13.3	11	43	0.	9	51
Washington University, Medical School	95	3.2	8	92	3.3	8	3	0.	3	88	3.4	5	68
Barnes Medical College	90	31.1	18	77	28.6	17	13	46.2	8	60	25.0	13	61
Medico-Chirurgical College of Philadelphia	87	13.8	16	75	13.3	10	12	16.7	10	69	11.6	7	98
College of Physicians and Surgeons, Baltimore	85	15.3	20	75	12.0	17	10	40.0	8	59	13.6	16	45
Johns Hopkins University, Medical Department	84	1.2	24	74	0.	22	10	10.0	7	44	0.	16	46
University and Bellevue Hospital Medical College	84	6.0	14	77	2.6	8	7	42.9	7	43	2.3	4	82
Atlanta College of Physicians and Surgeons	81	11.1	6	78	10.7	5	3	33.3	3	69	5.8	5	17
Long Island College Hospital	80	13.7	8	76	14.5	4	4	0.	4	41	14.6	3	78
State University of Iowa, College of Medicine	78	7.7	10	67	5.9	9	11	18.1	6	54	3.7	4	35
Cornell University Medical College	76	0.	13	72	0.	9	4	0.	4	50	0.	3	75
University of Pittsburgh, Medical Department	75	12.0	3	75	12.0	3	..	....	..	60	8.3	2	101
St. Louis College of Physicians and Surgeons	67	41.8	18	56	48.2	14	11	9.1	8	19	15.8	5	66
University Medical College, Kansas City	67	17.9	14	56	12.5	8	11	45.5	9	51	7.8	7	67
University of Minnesota, College of Medicine and Surgery	65	7.7	9	50	8.0	9	15	6.7	7	30	10.0	3	57
Hahnemann Medical College and Hospital, Philadelphia	63	14.3	15	56	14.3	13	7	14.3	6	39	12.8	7	96
Medical College of the State of South Carolina	61	27.9	6	58	27.6	6	3	33.3	3	41	29.3	6	103
Milwaukee Medical College, Dept. of Medicine of Marquette University	61	21.3	6	56	23.2	5	5	0.	3	44	20.5	5	120
Indiana University School of Medicine	60	5.0	7	60	5.0	7	..	....	..	56	1.8	6	33
Atlanta School of Medicine	59	17.0	8	59	17.0	9	..	....	..	50	12.0	8	18
Maryland Medical College	59	45.8	13	53	43.4	10	6	66.7	5	34	44.1	9	47
Hahnemann Medical College and Hospital, Chicago	57	17.5	19	49	14.3	16	8	37.5	6	28	7.1	5	26
Vanderbilt University, Medical Department	55	9.1	19	45	6.7	17	10	20.0	8	26	7.7	12	111
John A. Creighton Medical College	53	1.9	8	50	2.0	8	3	0.	2	42	2.4	3	69
Albany Medical College	50	6.0	8	42	7.1	2	8	0.	6	26	11.5	1	73
Totals	4170	13.4	..	3709	12.5	..	461	19.1	..	2735	10.0	..	...

This table is especially interesting, since it gives data relating to the 42 larger medical colleges arranged according to the number of graduates examined. This allows of comparisons between colleges having classes of nearly equal size. This time as in 1909 the University of Louisville Medical Department had the largest number examined, which place was held in 1908 by Jefferson Medical College and in the three previous years by the College of Physicians and Surgeons of Chicago.

Of the 17 colleges having 100 or more examined, 9 have failure percentages of less than 10, while 6 stand out prominently with large failure percentages of 20.7, 22.5, 22.9, 24.1, 31.1 and 42.7. This marked difference holds even in respect to recent graduates (of 1906 to 1910, inclusive).

Of the 25 colleges having between 50 and 100 graduates examined, 11 had failure percentages of less than 10; 9 had failure percentages between 10 and 20 and 5 had failure percentages above 20, the 3 highest having 31.1, 41.8 and 45.8 per cent.

The average percentage of failures for these larger colleges for graduates of 1905 and previous years, was 19.1; for graduates of 1906 to 1910 inclusive (recent graduates), 12.5; for graduates of 1910, 10.0 and for graduates of all years, was 13.4. Of the 42 colleges, 23 obtained failure percentages below the average. Of the 6,431 college graduates examined by state boards in 1910, these larger schools furnished 4,170, or 64.8 per cent.

TABLE F.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE B.

College.	Total Examined.	Results in Home State. Passed.	Failed.	Per Cent. Failed.	Results in Other States. Passed.	Failed.	Per Cent. Failed.
ALABAMA..... —17.9	**81**	**45**	**19**	**29.7**	**15**	**2**	**11.8**
Birmingham Medical College	35	22	9	29.0	3	1	25.0
University of Alabama	46	23	10	30.3	12	1	7.7
ARKANSAS..... + 9.0	**44**	**20**	**9**	**31.0**	**9**	**6**	**40.0**
College of Physicians and Surgeons	21	5	6	54.5	6	4	40.0
University of Arkansas	23	15	3	16.7	3	2	40.0
CALIFORNIA..... —16.2	**78**	**57**	**11**	**16.2**	**8**	**0**	**0.**
California Eclectic Medical College	3	2	1	33.3	.....	.....	.....
College of P. and S., Los Angeles	16	11	2	15.4	3	0	0.
College of P. and S., San Francisco	18	11	5	31.3	2	0	0.
Cooper Medical College	21	16	2	11.1	3	0	0.
Hahnemann Medical Coll. of the Pacific	5	4	1	20.0	.....	.....	.....
Oakland Coll. of Medicine and Surgery	3	3	0	0.	.....	.....	.....
University of California	10	10	0	0.	.....	.....	.....
COLORADO..... —	**14**	**12**	**0**	**0.**	**2**	**0**	**0.**
University of Colorado	14	12	0	0.	2	0	0.
CONNECTICUT..... + 8.3	**24**	**12**	**0**	**0.**	**11**	**1**	**8.3**
Yale Medical School	24	12	0	0.	11	1	8.3
DISTRICT OF COLUMBIA..... — 7.5	**97**	**25**	**9**	**26.5**	**51**	**12**	**19.0**
George Washington University	33	15	2	11.8	14	2	12.5
Georgetown University	25	6	2	25.0	16	1	5.9
Howard University	39	4	5	55.6	21	9	30.0
GEORGIA..... +31.5	**174**	**101**	**0**	**0.**	**50**	**23**	**31.5**
Atlanta College of Phys. and Surgs.	78	53	0	0.	17	8	32.0
Atlanta School of Medicine	59	35	0	0.	14	10	41.7
Georgia College of Eclectic M. & S.	5	.....	.....	.....	5	0	0.
Hospital Medical College, Atlanta	7	.....	.....	.....	7	0	0.
Medical College of Georgia	25	13	0	0.	7	5	41.7
ILLINOIS..... + 3.6	**722**	**445**	**57**	**11.4**	**187**	**33**	**15.0**
Bennett Medical College	45	23	8	25.8	9	5	35.7
Chicago College of Med. and Surg.	131	91	9	9.0	25	6	19.4
College of Medicine and Surg., Ph.M.	21	8	8	50.0	4	1	20.0
College of Phys. and Surgs., Chicago	154	94	13	12.1	38	9	19.1
Hahnemann Med. College and Hospital	49	25	4	13.8	17	3	15.0
Hering Medical College	10	3	2	40.0	4	1	20.0
Jenner Medical College	20	15	4	21.1	1	0	0.
National Medical University	6	1	5	83.3	.....	.....	.....
Northwestern University Medical School	185	119	1	0.8	57	8	12.3
Reliance Medical College	11	7	3	30.0	1	0	0.
Rush Medical College	90	59	0	0.	31	0	0.
INDIANA..... +31.4	**60**	**53**	**1**	**1.9**	**4**	**2**	**33.3**
Indiana Univ., School of Medicine	60	53	1	1.9	4	2	33.3
IOWA..... +18.8	**103**	**82**	**1**	**1.2**	**16**	**4**	**20.0**
Drake University, College of Medicine	25	23	0	0.	1	1	50.0
State Univ. of Iowa, Coll. of Medicine	67	50	1	2.0	13	3	18.7
State Univ. of Iowa, Homeopathic Dept.	11	9	0	0.	2	0	0.
KANSAS..... +14.3	**37**	**30**	**0**	**0.**	**6**	**1**	**14.3**
Kansas Medical College	14	12	0	0.	2	0	0.
Univ. of Kansas, School of Medicine	23	18	0	0.	4	1	20.0
KENTUCKY..... +10.9	**229**	**90**	**19**	**17.4**	**86**	**34**	**28.3**
Louisville National Medical College	6	0	1	.100	1	4	80.0
University of Louisville, Med. Dept.	223	90	18	16.7	85	30	26.1
LOUISIANA..... + 2.3	**116**	**63**	**4**	**5.9**	**45**	**4**	**8.2**
Flint Medical College	6	1	2	66.7	3	0	0.
Tulane University Medical Department	110	62	2	3.1	42	4	8.7
MAINE..... +50.0	**24**	**20**	**0**	**0.**	**2**	**2**	**50.0**
Medical School of Maine	24	20	0	0.	2	2	50.0
MARYLAND..... — 0.5	**404**	**93**	**21**	**18.4**	**238**	**52**	**17.9**
Baltimore Medical College	95	21	2	8.7	55	17	23.6
College of Physicians and Surgeons	75	11	1	8.3	55	8	12.7
Johns Hopkins University	74	20	0	0.	54	0	0.
Maryland Medical College	53	5	8	61.5	25	15	37.5
University of Maryland	107	36	10	21.7	49	12	19.7
MASSACHUSETTS..... — 5.8	**240**	**123**	**27**	**18.0**	**78**	**11**	**12.2**
Boston University	24	13	0	0.	10	1	9.1
College of Physicians and Surgeons	36	6	18	75.0	5	7	58.3
Harvard Medical School	84	42	2	4.5	39	1	2.5
Tufts College Medical School	96	62	7	10.1	25	2	7.5
MICHIGAN..... + 0.7	**142**	**110**	**3**	**2.7**	**28**	**1**	**3.4**
Detroit College of Medicine	35	33	1	2.9	1	0	0.
Detroit Homeopathic College	6	4	2	33.3	.....	.....	.....
Univ. of Michigan, Dept. of M. & S.	80	60	0	0.	19	1	5.0
Univ. of Michigan, Homeopathic College	21	13	0	0.	8	0	0.
MINNESOTA..... — 5.0	**67**	**35**	**5**	**12.5**	**25**	**2**	**7.5**
Univ. of Minnesota, Coll. of M. & S.	50	31	4	11.4	15	0	0.
Hamline University	17	4	1	20.0	10	2	16.7
MISSISSIPPI..... —32.9	**23**	**8**	**11**	**57.9**	**3**	**1**	**25.0**
Mississippi Medical College	23	8	11	57.9	3	1	25.0
MISSOURI..... +11.2	**461**	**148**	**18**	**11.0**	**231**	**68**	**22.2**
American Medical College	6	3	2	40.0	1	0	0.
Barnes Medical College	77	15	5	25.0	40	17	29.8
Eclectic Medical University, Kansas City	9	.....	.....	.....	6	3	33.3
Ensworth Medical College	31	7	3	30.0	12	9	42.9
Kansas City Hahnemann Medical Coll.	28	4	0	0.	19	5	20.8
St. Louis University	106	42	0	0.	61	3	4.7
St. Louis Coll. of Physicians and Surgs.	56	11	5	31.3	18	22	55.0
University Medical College, Kansas City	56	16	3	15.8	33	4	10.8
Washington University	92	48	0	0.	41	3	6.8
NEBRASKA..... +13.3	**79**	**64**	**0**	**0.**	**13**	**2**	**13.3**
John A. Creighton Medical College	50	39	0	0.	10	1	9.1
Lincoln Medical College	15	11	0	0.	3	1	25.0
University of Nebraska	14	14	0	0.	0	0	.....
NEW HAMPSHIRE..... + 7.2	**21**	**7**	**0**	**0.**	**13**	**1**	**7.2**
Dartmouth Medical School	21	7	0	0.	13	1	7.2
NEW YORK..... — 3.2	**475**	**373**	**30**	**7.4**	**69**	**3**	**4.2**
Albany Medical College	42	38	3	7.3	1	0	0.
Columbia Univ. Coll. of P. & S.	100	65	1	1.5	34	0	0.
Cornell University Medical School	72	64	0	0.	8	0	0.
Eclectic Medical College, New York	12	6	4	40.0	2	0	0.
Fordham University	2	2	0	0.	0	0	0.
Long Island College Hospital	76	60	9	13.0	5	2	28.6
N. Y. Homeopathic Med. Coll. & Hosp.	25	17	4	19.0	4	0	0.
N. Y. Med. Coll. & Hosp. for Women	2	0	2	100	0	0	0.
Syracuse University	27	21	3	12.5	3	0	0.
University and Bellevue Hospital	77	65	1	1.5	10	1	9.1
University of Buffalo	40	35	3	7.9	2	0	0.
NORTH CAROLINA..... +26.2	**63**	**15**	**5**	**25.0**	**21**	**22**	**51.2**
Leonard School of Medicine	45	5	3	37.5	17	20	54.0
North Carolina Medical College	18	10	2	16.7	4	2	33.3
OHIO..... +22.1	**188**	**140**	**8**	**5.4**	**29**	**11**	**27.5**
Cleveland College of Phys. and Surgs.	20	19	0	0.	1	0	0.
Cleveland Homeo. Medical College	9	4	1	20.0	4	0	0.
Eclectic Medical College	30	7	2	22.2	10	11	52.4
Ohio-Miami Medical College	44	35	4	10.3	5	0	0.
Pulte Medical College	5	3	0	0.	2	0	0.
Starling-Ohio Medical College	45	42	1	2.3	2	0	0.
Toledo Medical College	9	9	0	0.	0	0	0.
Western Reserve University	26	21	0	0.	5	0	0.
OREGON..... —21.8	**32**	**13**	**5**	**21.8**	**9**	**0**	**0.**
Willamette University	11	7	1	12.5	3	0	0.
University of Oregon	21	11	4	26.7	6	0	0.
PENNSYLVANIA..... + 3.7	**591**	**336**	**23**	**4.1**	**214**	**18**	**7.8**
Hahnemann Medical College and Hosp.	56	27	4	12.9	21	4	16.0
Jefferson Medical College	149	59	0	0.	86	4	4.4
Medico-Chirurgical College of Phila.	75	56	8	12.5	9	2	18.1
Temple University	35	32	3	8.6	.....	.....	.....
University of Pennsylvania	164	87	2	2.2	73	2	2.7
University of Pittsburgh	75	59	6	9.2	7	3	30.0
Woman's Med. Coll. of Pennsylvania	37	16	0	0.	18	3	14.3
SOUTH CAROLINA..... + 7.2	**58**	**34**	**12**	**26.1**	**8**	**4**	**33.3**
Med. Coll. of the State of So. Carolina	58	34	12	26.1	8	4	33.3
TENNESSEE..... +22.8	**410**	**117**	**17**	**12.7**	**178**	**93**	**35.5**
Coll. of Physicians and Surgs., Memphis	21	6	2	25.0	8	5	38.4
Knoxville Medical College	4	1	0	0.	0	3	.100
Memphis Hospital Medical College	118	33	2	5.7	49	34	41.0
Meharry Medical College	99	17	7	29.2	40	35	46.7
Tennessee Medical College	24	19	1	5.0	1	3	75.0
Univ. of Nashville and Tennessee	90	29	4	12.1	46	11	19.3
University of West Tennessee	9	2	1	33.3	2	4	66.7
Vanderbilt University	45	10	0	0.	32	3	8.6
TEXAS..... —	**82**	**72**	**0**	**0.**	**10**	**0**	**0.**
Baylor University	9	8	0	0.	1	0	0.
Forth Worth University	21	19	0	0.	2	0	0.
Southwestern University Medical College	16	11	0	0.	5	0	0.
University of Texas	36	34	0	0.	2	0	0.
VERMONT..... + 0.9	**33**	**15**	**1**	**6.3**	**13**	**1**	**7.2**
University of Vermont	30	15	1	6.3	13	1	7.2
VIRGINIA..... +16.4	**101**	**61**	**1**	**1.6**	**32**	**7**	**18.0**
Medical College of Virginia	39	28	0	0.	11	0	0.
University of Virginia	31	20	0	0.	11	0	0.
University College of Medicine	31	13	1	7.2	10	7	41.2
WISCONSIN..... +41.0	**63**	**45**	**7**	**13.5**	**5**	**6**	**54.5**
Marquette University	56	39	7	15.2	4	6	60.0
Wisconsin Coll. of Phys. and Surgeons	7	6	0	0.	1	0	0.
Totals..... + 9.9	**5331**	**2867**	**324**	**10.2**	**1710**	**430**	**20.1**

In this table the number of graduates examined in the state in which the college is located are grouped in one column, while graduates of that college examined in other states are in another column. For example, under Maryland, this table shows that, of the 95 graduates of Baltimore Medical College examined by State Boards during 1910, 23 were examined in Maryland of which number 21 passed and 2, or 8.7 per cent. failed, while 72 were examined in other states of which number 55 passed and 17, or 23.6 per cent. failed. This table shows that the graduates have better chances of passing examinations in the state in which their colleges are located than they have elsewhere. This should always be considered in making comparisons between colleges. A college having a low standard, by having all its graduates examined in the home state, may sometimes show a lower percentage of failures than a college of much higher grade which has graduates examined by several states.

The heavy-faced figures give the results by states. The first column of heavy-faced figures shows the differences between the percentages of examinations in the home state and the examinations elsewhere. The plus sign indicates that graduates have better chances of success in the state where the colleges from which they graduated are located; the minus sign indicates that the chances are better elsewhere. The most marked variations in 1910 were in the examination of the graduates of the colleges of Maine, 50.0 per cent., of Wisconsin, 41.0 per cent., of Georgia, 31.5 per cent. and of Indiana, 31.4 per cent., in all of which the chances of the graduates were better in the home state. The marked variations where the graduate's chances were better elsewhere were in Mississippi, 32.9 per cent., Oregon, 21.8 per cent., and in California, 16.2 per cent. The totals show that on the average the chances of success were 9.9 per cent. better if the graduate took the examination in the state where his college was located.

per cent., took their license examinations in the state where the colleges from which they graduated were located. Of this number only 10.2 per cent. failed on the average, whereas, of the 2,140 candidates examined in other states, 20.1 per cent. failed. This would indicate that as a rule the student's chances of passing the license examination are better if he stays in the college's home state. In this connection it is interesting to note that not a single graduate of any one of the Nebraska colleges failed in the Nebraska examinations, although of the graduates of these colleges who were examined in other states, 13.3 per cent. failed. The student's chances for success at home and elsewhere were equal or nearly so in 5 instances; they were better in the home state in 21 instances, while in only 8 instances the student's chances were better if he went to some other state.

TOTAL RESULTS FOR FIVE YEARS

Table G shows, so far as reports were obtainable, the number registered and the number rejected in each state for each of the past five years. A comparison of this table with the statistics in the last educational number of THE JOURNAL (Aug. 20, 1910, p. 682), shows what would be expected, that the states having the largest number of medical graduates examine the largest numbers of physicians. In 1906 several states registered all of the majority of their applicants on the presentation of satisfactory credentials without written examinations. Now, only one state, New Mexico, will register candidates on presentation of a diploma, without examination. This table shows only those registered by examination. Another table (K) shows the total registration by all methods.

CLASSIFICATION OF COLLEGES

Tables H, I and J give a classification of the medical colleges of the United States on the basis of the failures of their graduates at state board examinations during the past year. This classification is based on the examination of *recent graduates*, as shown in Table B. In forming conclusions, the caution already given should be observed, of noting the number examined, the number of states in which representatives appeared, the character of the board making the examination and the character of the examination. To form a more exact judgment one should compare the percentage of failures received by any college this year with those received in the classifications published in previous years. Careful investigation shows that a college cannot be considered a high-grade medical school merely because its graduates occasionally show a low percentage of failures at state board examinations. The fact is, several poorly equipped and low-standard colleges appear in the first list. On the other hand, some good schools appear in the second list. For the majority of colleges, however, the classification is fairly accurate. A comparison of this classification with that based on the actual inspection of the colleges by the Council on Medical Education will be of interest (see THE JOURNAL A. M. A., June 18, 1910, p. 2062).

Table H gives a list of 57 colleges which obtained failure percentages below 10 per cent., 24 of which had no failures whatsoever and 42 had only 5 per cent. or less. The failure percentage for the entire group was 3.5. Table I shows 22 colleges whose failure percentages were between 10 and 20 per cent., of which number 11 had percentages below that for the group, which was 13.7. Table J includes 42 colleges having failure percentages of 20 per cent., or above, of which number 25 had above 30 per cent., 14 had above 40 per cent. and 8 had percentages of 50 per cent., or higher. The average percentage for all candidates from this group of colleges was 31.9.

A comparison of the classification this year with those of previous years shows an increase in the number of colleges having above 20 per cent. of failures and a decrease in those having between 10 and 20 per cent. It will be interesting to note the changes in these totals hereafter as state boards more generally adopt the use of practical examinations.

CLASSIFICATION OF COLLEGES
Comparison with Previous Years (Tables H, I, J).

	Colleges Having Less than 10 Per Cent.	Colleges Having 10 to 20 Per Cent.	Colleges Having Above 20 Per Cent.	Unclassified Colleges.	Total Colleges.
1904	47	27	38	37	149
1905	45	22	40	46	153
1906	62	24	43	20	149
1907	64	27	39	18	148
1908	48	29	46	15	138
1909	58	31	38	7	134
1910	57	22	42	0	121

TABLE G.—PHYSICIANS EXAMINED BY STATE BOARDS, 1906 TO 1910, INCLUSIVE

State.	1906		1907		1908		1909		1910		Totals.			
	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Examined.	Rejected.	Registered.	Percentage Rejected.
Alabama	138	22	142	38	66	66	7	20	94	64	657	447	210	32.0
Arizona	35	4	29	2	36	4	19	6	15	9	159	134	25	15.7
Arkansas	152	73	72	106	120	85	111	131	96	28	974	551	423	43.4
California	190	44	118	84	145	96	184	73	204	47	1,185	841	344	29.0
Colorado	...	...	50	6	52	14	36	15	48	5	226	186	40	17.7
Connecticut	84	28	64	17	67	16	52	13	69	18	428	336	92	21.5
Delaware	11	1	4	2	11	0	19	2	21	2	73	66	7	9.6
Dist. of Col.	63	34	59	37	53	36	46	21	32	13	394	253	141	35.8
Florida	66	7	72	8	79	10	70	12	102	15	441	389	52	11.8
Georgia	164	5	139	22	150	14	143	28	148	9	822	744	78	9.5
Idaho	42	12	38	7	52	16	54	23	47	24	315	233	82	26.0
Illinois	748	69	580	52	646	96	645	117	631	100	3,684	2,250	434	11.8
Indiana	228	12	172	17	172	7	102	3	97	9	819	771	48	5.9
Iowa	166	29	146	26	139	43	98	14	113	4	778	662	116	15.0
Kansas	180	27	125	14	116	18	121	20	66	25	712	608	104	14.6
Kentucky	52	13	48	19	107	61	120	18	119	35	592	446	146	24.7
Louisiana	133	14	153	7	145	29	121	33	104	34	773	656	117	15.1
Maine	80	8	74	4	92	11	55	10	73	5	412	374	38	9.2
Maryland	112	44	139	41	132	71	130	33	131	32	865	644	221	25.6
Massachusetts*	270	120	226	118	238	108	213	95	197	100	1,685	1,144	541	32.1
Michigan	162	6	150	8	113	6	140	2	131	3	721	606	25	3.5
Minnesota	104	31	80	35	76	25	90	25	76	22	564	426	138	24.4
Mississippi*	156	144	157	191	138	184	130	154	84	150	1,488	665	823	55.3
Missouri	249	193	186	86	181	50	212	70	181	23	1,431	1,009	422	29.5
Montana	24	25	34	14	51	27	68	23	73	24	363	250	113	31.1
Nebraska	58	25	68	14	103	16	74	8	80	0	446	383	63	14.1
Nevada	2	0	10	1	17	0	9	0	12	1	52	50	2	3.8
New Hampshire	34	17	19	11	37	16	20	10	34	8	206	144	62	30.1
New Jersey	80	13	73	15	89	17	76	12	63	17	455	381	74	16.3
New Mexico	...	...	5	3	30	2	11	4	6	1	62	52	10	16.1
New York	629	56	691	54	679	73	566	72	515	72	3,407	3,080	327	9.6
North Carolina	87	41	111	20	95	26	111	18	79	15	603	483	120	19.9
North Dakota	60	10	49	4	52	10	41	6	42	5	279	244	35	12.6
Ohio	222	16	179	9	182	6	192	13	172	10	1,001	947	54	5.3
Oklahoma	95	28	...	...	34	10	92	44	100	42	445	321	124	27.9
Oregon*	65	56	62	56	43	63	95	50	93	55	638	358	280	43.9
Pennsylvania	519	73	465	54	485	49	474	27	451	52	2,649	2,394	255	9.6
Rhode Island	54	30	36	23	29	17	23	10	23	10	255	165	90	35.3
South Carolina	39	13	41	17	47	21	46	33	61	44	362	234	128	35.4
South Dakota	26	11	23	5	58	6	60	21	52	9	271	219	52	19.2
Tennessee*	150	96	133	140	213	87	277	4	315	52	1,467	1,088	379	25.8
Texas	159	53	187	64	143	23	181	19	162	5	996	832	164	16.5
Utah	37	7	26	0	27	5	28	4	34	4	172	152	20	11.6
Vermont	35	0	40	7	45	6	38	2	21	1	195	179	16	8.2
Virginia	123	35	124	33	128	53	136	40	122	14	808	633	175	21.7
Washington	137	45	163	38	182	60	148	49	154	43	1,019	784	235	23.1
West Virginia	84	72	92	9	102	18	105	10	88	25	605	471	134	22.3
Wisconsin	52	2	62	5	80	7	56	13	71	7	355	321	34	9.6
Wyoming	12	3	7	5	7	2	12	0	10	0	58	48	10	17.1
Totals	8,035		7,271		7,770		7,287		7,004		37,367			
Registered	6,368		5,723		6,084		5,857		5,712		29,744			
Rejected	1,667		1,548		1,686		1,430		1,292		7,623			
Per Cent. Rej.	20.7		21.3		21.7		19.6		18.4		20.4			

This table gives the number of candidates registered by examination by each state during each of the last five years, as well as the number rejected. The last four columns give the totals for the five years and the percentage rejected by each state.

Six states registered over 1,000 candidates by examination, these being Illinois, Massachusetts, Missouri, New York, Pennsylvania and Tennessee. Over 3,000 were registered in Illinois and New York. Of the 1,088 candidates registered in Tennessee in the last five years, 322, or 29.6 per cent., were non-graduates.

The highest percentage of rejections was 55.3 in Mississippi, followed by Oregon, Arkansas and District of Columbia, with 43.9, 43.4, and 35.8, respectively. The states marked with an asterisk (*) included non-graduates among those examined, and for that reason would be expected to have higher percentages rejected.

The lowest failure percentages were in Michigan, 3.5; Nevada, 3.8; Ohio, 5.3, and Vermont, 8.2.

TABLE H.—COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
CALIFORNIA					
Cooper Medical College	21	19	2	9.5	3
Oakland College of Medicine and Surgery	3	3	0	0.	1
University of California, Medical Dept.	10	10	0	0.	1
COLORADO					
University of Colorado, Medical Department	14	14	0	0.	3
CONNECTICUT					
Yale Medical School	24	23	1	4.2	6
GEORGIA					
Georgia Coll. of Eclectic Medicine and Surg.	5	5	0	0.	2
Hospital Medical College, Atlanta	7	7	0	0.	1
ILLINOIS					
Northwestern University, Medical School	185	176	9	4.9	17
Rush Medical College	90	90	0	0.	16
INDIANA					
Indiana University, School of Medicine	60	57	3	5.0	7
IOWA					
Drake University, College of Medicine	25	24	1	4.0	3
State University of Iowa, Coll. of Medicine	67	63	4	5.9	9
State University of Iowa, Homeopathic Dept.	11	11	0	0.	3
KANSAS					
Kansas Medical College	14	14	0	0.	3
University of Kansas, School of Medicine	23	22	1	4.4	3
LOUISIANA					
Tulane University, Medical Department	110	104	6	5.5	13
MAINE					
Medical School of Maine	24	22	2	8.3	4
MARYLAND					
Johns Hopkins University, Medical Dept.	74	74	0	0.	22
MASSACHUSETTS					
Boston University School of Medicine	24	23	1	4.2	7
Harvard Medical School	84	81	3	3.6	22
Tufts College Medical School	96	87	9	9.4	8
MICHIGAN					
Detroit College of Medicine	35	34	1	2.9	2
University of Michigan, Dept. of Med. and S.	80	79	1	1.2	11
University of Michigan, Homeopathic Coll.	21	21	0	0.	7
MINNESOTA					
University of Minnesota, Coll. of Med. and S.	50	46	4	8.0	9
MISSOURI					
St. Louis University, School of Medicine	106	103	3	2.8	13
Washington University, Medical Department	92	89	3	3.5	8
NEBRASKA					
John A. Creighton Medical College	50	49	1	2.0	8
Lincoln Medical College	15	14	1	6.7	4
University of Nebraska, College of Medicine	14	14	0	0.	1
NEW HAMPSHIRE					
Dartmouth Medical School	21	20	1	4.8	5
NEW YORK					
Albany Medical College	42	39	3	7.1	2
Columbia Univ., Coll. of Phys. and Surgs.	100	99	1	1.0	16
Cornell University Medical College	72	72	0	0.	9
Fordham University, School of Medicine	2	2	0	0.	1
Univ. and Bellevue Hosp. Medical College	77	75	2	2.6	8
University of Buffalo, Medical Department	40	37	3	7.5	3
OHIO					
Cleveland Coll. of Physicians and Surgeons	20	20	0	0.	2
Ohio-Miami Medical College	44	40	4	9.1	4
Pulte Medical College	5	5	0	0.	3
Starling-Ohio Medical College	45	44	1	2.2	3
Toledo Medical College	9	9	0	0.	1
Western Reserve University, Medical Dept.	26	26	0	0.	6
OREGON					
Willamette University, Medical Department	11	10	1	9.1	3
PENNSYLVANIA					
Jefferson Medical College	149	145	4	2.7	31
Temple University, Medical Department	35	32	3	8.6	1
University of Pennsylvania, Dept. of Med.	164	160	4	2.4	25
Woman's Medical College of Pennsylvania	37	34	3	8.1	13
TENNESSEE					
Vanderbilt University, Medical Department	45	42	3	6.7	17
TEXAS					
Baylor University, College of Medicine	9	9	0	0.	2
Fort Worth University, Medical Department	21	21	0	0.	2
Southwestern University Medical College	16	16	0	0.	3
University of Texas, Dept. of Medicine	36	36	0	0.	3
VERMONT					
University of Vermont, College of Medicine	30	28	2	6.7	9
VIRGINIA					
Medical College of Virginia	39	39	0	0.	7
University of Virginia, Dept. of Medicine	31	31	0	0.	9
WISCONSIN					
Wisconsin Coll. of Physicians and Surgeons	7	7	0	0.	2
Totals	2567	2476	91	3.5	..

TOTAL REGISTRATION IN 1910

The tables thus far described have referred only to the results of examinations and to those registered on that basis. Table K, however, shows the total number who received licenses in each state, including those registered by examination, by reciprocity, and under various exemption clauses. Above 100 were registered in 28 different states, above 200 in 10, above 300 in 5 and above 400 in 3, the largest numbers being registered in Illinois with 675, in New York with 592, in Pennsylvania with 451, in Texas with 341 and in Tennessee with 330. Non-graduates were registered in 4 states, there being 142 registered in Tennessee, 39 in Mississippi, 6 in Massachusetts and 5 in Oregon. Altogether 7,352 physicians were licensed during 1910.

Table L gives those registered without examination on presentation of satisfactory credentials, which included a license issued by some other state. This is usually described by the term "reciprocity," which conveys the idea that the state which accepts the license of another must be granted the same courtesy by the state issuing the original license. The term does not well describe this method of registration, however, since some state boards consider it more fair to the physician to accept his credentials, if satisfactory, whether the state board issuing the original license returns the favor or not. Had not reciprocal relations been established by the 34 states shown in the table, 1,502 physicians, the majority of whom have been in practice for many years, would have been compelled to undergo the ordeal of a second trying examination.

TABLE I.—COLLEGES HAVING BETWEEN 10 AND 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
CALIFORNIA					
College of Phys. and Surgs., Los Angeles	16	14	2	12.5	3
DISTRICT OF COLUMBIA					
George Washington Univ., Dept. of Medicine	33	29	4	12.1	14
Georgetown University, School of Medicine	25	22	3	12.0	10
GEORGIA					
Atlanta College of Physicians and Surgeons	78	70	8	10.7	5
Atlanta School of Medicine	59	49	10	17.0	9
ILLINOIS					
Chicago College of Medicine and Surgery	131	116	15	11.5	17
College of Physicians and Surgeons	154	132	22	14.3	20
Hahnemann Med. Coll. and Hosp., Chicago	49	42	7	14.3	16
MARYLAND					
College of Physicians and Surgeons	75	66	9	12.0	17
MINNESOTA					
Hamline University, Medical Department	17	14	3	17.7	8
MISSOURI					
Kansas City Hahnemann Medical College	28	23	5	17.9	7
University Medical College, Kansas City	56	49	7	12.5	8
NEW YORK					
Long Island College Hospital	76	65	11	14.5	4
New York Homeopathic Medical College	25	21	4	16.0	3
Syracuse University, College of Medicine	27	24	3	11.1	4
OHIO					
Cleveland Homeopathic Medical College	9	8	1	11.1	5
OREGON					
University of Oregon, Medical Department	21	17	4	19.0	3
PENNSYLVANIA					
Hahnemann Medical College and Hospital	56	48	8	14.3	13
Medico-Chirurgical College of Philadelphia	75	65	10	13.3	10
University of Pittsburgh, School of Medicine	75	66	9	12.0	3
TENNESSEE					
Tennessee Medical College	24	20	4	16.7	3
Univ. of Nashville and Tenn., Med. Dept.	90	75	15	16.7	16
Totals	1199	1035	164	13.7	..

RECIPROCITY AND EDUCATIONAL STANDARDS

As at present administered, reciprocal relations between some states are tending to lower rather than to elevate educational standards. A study of these statistics will show that in several instances such relations exist between states differing widely in their standards of education and in the methods and severity of their examinations. It can be seen, therefore, that a loosely administered provision for reciprocity

provides a wide-open door through which unqualified candidates can obtain registration. There are some boards, however, which wisely reserve and exercise the right to reject any candidate who does not possess satisfactory credentials even though he is licensed in a state with which it has reciprocal relations. Some boards also wisely require that the applicant, before he is eligible to registration through reciprocity, must have been engaged in the actual and reputable practice of his profession for at least a year, in the state where the original license was granted. Without this provision a candidate may be tempted to obtain his original license in the state giving the easiest examination and, on the other hand, a state board may be tempted to make its examination less severe for the sake of obtaining additional fees. Hence, without the one-year-residence clause, standards of examination are apt to be lowered. In the establishing of reciprocal relations, therefore, the state board should reserve and exercise the discretionary power to refuse to register any candidate who could not originally have registered in that state and secondly, the board should require that the applicant shall have been in the actual practice of medicine for at least a year before he is eligible to registration under the reciprocity provision.

In the light of the above statement in regard to reciprocity, it will be interesting to study Table M which shows in what states the original licenses were granted of those who were registered elsewhere under the reciprocity provision during the last four years.

TABLE J.—COLLEGES HAVING OVER 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
ALABAMA					
Birmingham Medical College	35	25	10	28.6	4
University of Alabama, Medical Department	46	35	11	23.9	6
ARKANSAS					
College of Physicians and Surgeons	21	11	10	47.6	3
University of Arkansas, Medical Department	23	18	5	21.8	6
CALIFORNIA					
California Eclectic Medical College	3	2	1	33.3	1
Coll. of Phys. and Surgs., San Francisco	18	13	5	27.8	3
Hahnemann Medical College of the Pacific	5	4	1	20.0	1
DISTRICT OF COLUMBIA					
Howard University, Medical Department	39	25	14	35.9	19
GEORGIA					
Medical College of Georgia	25	20	5	20.0	6
ILLINOIS					
Bennett Medical College	45	32	13	28.9	11
College of Medicine and Surgery, Ph.M.	21	12	9	42.9	6
Hering Medical College	10	7	3	30.0	6
Jenner Medical College	20	16	4	20.0	2
National Medical University	6	1	5	83.3	1
Reliance Medical College	11	8	3	27.3	2
KENTUCKY					
Louisville National Medical College	6	1	5	83.3	5
University of Louisville, Medical Department	223	175	48	21.5	24
LOUISIANA					
Flint Medical College	6	4	2	33.3	3
MARYLAND					
Baltimore Medical College	95	76	19	20.0	22
Maryland Medical College	53	30	23	43.4	10
University of Maryland, School of Medicine	107	85	22	20.6	18
MASSACHUSETTS					
College of Physicians and Surgeons	36	11	25	69.4	5
MICHIGAN					
Detroit Homeopathic College	6	4	2	33.3	1
MISSISSIPPI					
Mississippi Medical College	23	11	12	52.2	2
MISSOURI					
American Medical College	6	4	2	33.3	2
Barnes Medical College	77	55	22	28.6	17
Ensworth Medical College	31	19	12	38.7	7
St. Louis College of Physicians and Surgs.	56	29	27	48.2	14
Eclectic Medical University, Kansas City	9	6	3	33.3	4
NEW YORK					
Eclectic Med. Coll. of the City of New York	12	8	4	33.3	2
N. Y. Med. Coll. and Hospital for Women	2	0	2	100.	1
NORTH CAROLINA					
Leonard School of Medicine	45	22	23	51.1	11
North Carolina Medical College	18	14	4	22.2	6
OHIO					
Eclectic Medical College	30	17	13	43.3	11
SOUTH CAROLINA					
Medical Coll. of the State of So. Carolina	58	42	16	27.6	6
TENNESSEE					
College of Phys. and Surgeons, Memphis	21	14	7	33.3	6
Knoxville Medical College	4	1	3	75.0	3
Memphis Hospital Medical College	118	82	36	30.5	10
Meharry Medical College	99	57	42	42.4	17
University of West Tennessee, Med. Dept.	9	4	5	55.6	5
VIRGINIA					
University College of Medicine	31	23	8	25.8	10
WISCONSIN					
Marquette University, Medical Department	56	43	13	23.2	5
Totals	1565	1066	499	31.9	..

IN CONCLUSION

In the publication of these statistics, our endeavor has been to give an absolutely fair presentation of facts, a knowledge of which is always beneficial. Without question this annual presentation of the results of state licensing examinations has had a most helpful influence on medical education and medical licensure in this country. We reiterate our acknowledgments to the state licensing boards, whose ready cooperation and complete reports have made the publication of these data possible.

TABLE K.—REGISTRATIONS BY STATE BOARDS DURING 1910

States.	By Examination.			By Reciprocity.	Without Written Exam. or Under Exemption.	Total Registered.
	Graduates, 1906-1910.	Graduates, 1905 and Previous.	Non-graduates.			
Alabama	88	6	.....	.....	.....	94
Arizona	10	5	.....	.....	.....	15
Arkansas	85	11	.....	36	.....	132
California	125	79	.....	.....	.....	204
Colorado	45	3	.....	121	.....	169
Connecticut	57	12	.....	2	.....	71
Delaware	19	2	.....	.....	.....	21
District of Columbia	29	3	.....	7	.....	39
Florida	69	33	.....	.....	.....	102
Georgia	145	3	.....	29	1	178
Idaho	29	18	.....	.....	.....	47
Illinois	604	27	.....	44	.....	675
Indiana	93	4	.....	35	.....	132
Iowa	111	2	.....	48	.....	161
Kansas	63	3	.....	61	.....	127
Kentucky	110	9	.....	17	3	139
Louisiana	96	8	.....	6	.....	110
Maine	62	11	.....	5	.....	78
Maryland	126	5	.....	12	.....	143
Massachusetts	170	21	6	.....	.....	197
Michigan	123	8	.....	40	.....	171
Minnesota	62	14	.....	50	.....	126
Mississippi	39	6	39	.....	.....	84
Missouri	174	7	.....	57	7	245
Montana	47	26	.....	.....	.....	73
Nebraska	78	2	.....	63	.....	143
Nevada	3	9	.....	11	.....	23
New Hampshire	30	4	.....	2	.....	36
New Jersey	51	12	.....	218	.....	281
New Mexico	3	3	.....	.....	90	96
New York	468	47	.....	42	35	592
North Carolina	76	3	.....	17	.....	96
North Dakota	31	11	.....	28	.....	70
Ohio	162	10	.....	49	.....	221
Oklahoma	67	33	.....	148	.....	248
Oregon	50	38	5	.....	.....	93
Pennsylvania	437	14	.....	.....	.....	451
Rhode Island	18	5	.....	.....	.....	23
South Carolina	58	3	.....	1	.....	62
South Dakota	36	16	.....	.....	.....	52
Tennessee	159	14	142	15	.....	330
Texas	130	32	.....	179	.....	341
Utah	33	1	.....	14	.....	48
Vermont	19	2	.....	7	.....	28
Virginia	108	14	.....	16	.....	138
Washington	79	75	.....	.....	.....	154
West Virginia	84	4	.....	24	.....	112
Wisconsin	61	10	.....	82	2	155
Wyoming	8	2	.....	16	.....	26
Totals	4830	690	192	1502	138	7352

This table shows the total number registered during 1910 in each state by the various methods. The first column shows the recent graduates registered, the second column, the old practitioners (graduates of 1905 and previous years), the third column the non-graduates, and the fourth column shows the number licensed through reciprocity. It is interesting to note that states which have registered large numbers through reciprocity have examined very few old practitioners. The chief exception is New York, which has arranged reciprocal relations with only seven other states. The fifth column shows those registered without written examination under various exemption clauses. The last column shows the total number of physicians registered in each state during the year.

TABLE L.—PHYSICIANS REGISTERED THROUGH RECIPROCITY BY STATE EXAMINING BOARDS DURING 1910.

State Board of	Total Reg. through Reciprocity, Ea. State.	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. of Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	N. Carolina	N. Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	S. Carolina	S. Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	W. Virginia	Wisconsin	Wyoming	U. S. Pub. Health and Marine Hosp. Service.	Canada
Arkansas	36	..	..	..	..	..	..	..	..	..	..	..	4	2	..	1	5	7	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..
Colorado	121	..	..	..	2	..	..	..	..	..	..	..	17	2	15	10	3	1	..	1	..	2	1	1	14	2	4	..	..	1	..	6	..	..	5	..	..	20	..	..	..	2	2	..	1	..	2	3	3	1	..	..
Connecticut	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dist. of Col.	7	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	2	..	..	..	..	..
Georgia	29	..	..	..	..	..	..	..	1	..	..	..	1	1	..	1	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	3	..	..	..	..	..	..	10	..	..	3	..	..	1	..	..	..
Illinois	44	..	..	..	..	..	..	..	..	..	..	..	4	6	4	3	..	1	3	8	..	5	1	..	..	..	2	1	..	1	..	..	..	2	2	1	..	..	..	..	..	..	1	..	..	4	3	..	..	..	..
Indiana	35	..	..	..	..	1	..	..	..	..	..	..	11	..	2	2	8	..	..	..	..	4	1	..	1	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Iowa	48	..	..	..	..	1	..	..	..	..	..	..	27	1	..	4	..	..	..	..	..	3	..	..	3	..	7	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Kansas	61	..	8	..	..	..	..	..	..	..	..	..	10	2	10	..	6	..	..	..	..	..	..	..	6	..	4	..	..	..	..	..	..	..	1	3	..	..	..	..	..	1	1	..	..	7	1	..	..	..	1
Kentucky	17	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	2	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	8	..	..	1	..	..	..	..	..
Louisiana	6	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Maine	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..
Maryland	12	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	1	..	..	2	..	1	..	..	..
Michigan	40	..	..	..	..	1	..	..	..	1	..	..	12	2	2	..	1	..	..	2	..	..	..	..	1	..	1	..	..	1	..	2	1	..	6	1	..	..	..	..	..	..	..	..	1	..	2	3	..	..	..
Minnesota	50	..	..	..	..	..	..	..	1	..	..	..	25	..	7	1	..	..	2	1	..	2	..	..	1	..	1	..	..	1	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..
Missouri	57	..	..	1	..	3	..	..	..	..	..	..	12	3	13	4	5	..	..	5	..	1	1	..	..	..	3	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	3	..	..	..	..	..	..
Nebraska	63	..	..	1	..	2	..	..	..	..	..	..	16	1	14	7	1	..	1	..	..	2	1	..	9	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	2	3	..	..
Nevada	11	..	..	..	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	1	..	1	1	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New Hampshire	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
New Jersey	218	..	..	..	..	..	..	3	..	..	..	..	2	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	206	..	..	..	..	1	..	..	..	..	..	..	..	2	..	1	..	..	..	..
New York	42	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	11	..	..	..	..	..	..	..	..	9	..	..	..	3	..	..	..	..	..	..	..	..	..	..	15	..	..	2	..	..	1
No. Carolina	17	..	..	..	..	..	..	..	1	..	..	..	3	..	..	..	1	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	2	..
No. Dakota	28	..	..	..	..	..	..	..	..	..	..	..	13	..	..	..	..	..	..	..	..	1	10	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..
Ohio	49	..	..	..	..	..	..	..	1	..	..	..	10	9	..	1	..	..	3	3	..	10	..	..	..	..	..	..	..	1	..	4	..	..	..	..	..	..	..	..	..	1	..	1	..	5	..	..	..	..
Oklahoma	148	..	3	..	..	..	..	..	8	..	..	..	35	5	..	23	15	..	..	..	..	1	1	..	24	1	2	..	..	1	..	1	..	..	..	..	..	..	..	..	..	21	..	..	5	..	1	1	..	..	..
So. Carolina	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Tennessee	15	..	..	..	..	..	..	..	4	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..
Texas	179	..	37	..	..	..	..	3	..	..	..	..	34	6	4	6	13	..	1	4	..	5	3	..	16	..	11	1	..	1	..	..	..	3	12	..	..	..	..	..	..	..	1	4	..	13	1	..	..	..
Utah	14	..	..	..	1	..	..	..	..	..	..	..	7	..	..	..	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vermont	7	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	16	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	1	1	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	3	1	..	..	..
Wyoming	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..	..	..	11	..	2	..	..	..	..	..	..	..
W. Virginia	82	..	..	3	..	..	..	..	..	..	..	..	40	4	6	..	1	..	..	8	..	1	7	..	3	..	1	1	..	..	..	..	2	..	..	2	..	..	..	..	..	1	1	..	..	1	..	..	..	..	..
Wisconsin	16	..	..	..	..	..	1	..	..	..	..	..	3	1	4	..	..	..	..	..	..	..	1	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	..
*Total	1502	9	0	52	2	13	0	6	11	1	14	0	286	50	84	63	74	9	15	41	0	51	31	1	91	3	42	3	1	16	1	224	7	8	45	21	0	21	0	5	0	45	23	1	27	31	2	45	31	1	2	2

*Total received from each state through reciprocity.

This table shows the number of physicians registered by each state through reciprocity during 1910. "Reciprocity" is not the best term to use, however, since some states, Colorado for instance, register candidates who have satisfactory credentials including licenses, regardless as to whether the state issuing the original license reciprocates with those or not. Taking New York as an example, reading from left to right, the table shows that New York registered a total of 42 applicants through reciprocity during 1910, of which number 1 came from Indiana, 11 from Michigan, 9 from New Jersey, 3 from Ohio, 15 from Vermont, 2 from Wisconsin and 1 from Canada. Reading from above downward, the table shows that 224 physicians left New York during 1910 and registered in other states under the reciprocity provision, of which number 6 registered in Colorado, 1 in Connecticut, 1 in Georgia, 2 in Michigan, 206 in New Jersey, 4 in Ohio, 2 in Utah and 2 in Wisconsin. New Jersey leads, having registered 216 physicians through reciprocity, followed by Texas which registered 179, Oklahoma with 148, Colorado with 121 and Wisconsin with 82. It is interesting to note in what states the original licenses were issued. The table shows that of the 1,502 applicants registered through reciprocity, 286, or 19 per cent. obtained their original licenses in Illinois and 224, or 15 per cent. were first registered in New York, but 206 of the latter were registered in New Jersey. The states which furnished the three next highest numbers were Missouri with 91, Iowa with 84, and Kentucky with 74.

Altogether 1,502 licenses were issued through reciprocity in 1910, an increase of 335 over 1909, 410 over 1908, 513 over 1907 and 817 over 1906.

TABLE M.—RECIPROCAL REGISTRATIONS IN FOUR YEARS
Showing what states issued the original licenses

State	Physicians Going from States Named During				Totals
	1907	1908	1909	1910	
Alabama*	2	4	2	..	8
Arizona*	..	1	2	..	3
Arkansas	1	..	1	52	54
California*	2	2	1	2	7
Colorado	5	10	12	13	40
Connecticut*	..	2	2	..	4
Delaware	1	2	1	6	10
District of Columbia	15	14	13	11	53
Florida*	..	..	1	1	2
Georgia	10	18	10	14	52
Idaho*	..	1	1	..	2
Illinois	240	225	320	286	1,071
Indiana	30	33	46	50	159
Iowa	126	94	77	84	381
Kansas	33	32	41	63	169
Kentucky	21	53	30	74	178
Louisiana	3	..	2	9	14
Maine	16	24	18	15	73
Maryland	25	30	25	41	121
Massachusetts*	6	3	3	..	12
Michigan	62	63	51	51	227
Minnesota	29	23	35	31	118
Mississippi*	1	1	1	1	4
Missouri	79	61	58	91	289
Montana*	..	..	..	3	3
Nebraska	30	47	53	42	172
Nevada	2	4	2	3	11
New Hampshire	1	2	8	1	12

State	Physicians Going from States Named During				Totals
	1907	1908	1909	1910	
New Jersey	27	46	29	16	118
New Mexico*	..	1	7	1	9
New York	79	100	59	224	462
North Carolina	1	4	7	7	19
North Dakota	3	6	5	8	22
Ohio	39	35	47	45	166
Oklahoma	4	3	5	21	33
Oregon*	..	1	..	..	1
Pennsylvania*	15	15	7	21	58
Rhode Island*	..	1	1	..	2
South Carolina	2	4	7	5	18
South Dakota*	4	1	1	..	6
Tennessee	5	14	21	45	85
Texas	12	10	4	23	49
Utah	1	3	4	1	9
Vermont	12	20	24	27	83
Virginia	11	15	26	31	83
Washington*	..	..	..	2	2
West Virginia	6	21	36	45	108
Wisconsin	27	42	46	31	146
Wyoming	1	..	2	1	4
U. S. Army	..	..	3	..	3
U. S. P. H. & M. Hosp. Serv	..	..	..	2	2
Canada	..	..	..	2	2
Foreign and Miscellaneous	..	..	10	..	4
Totals	989	1,091	1,167	1,502	4,749

This table shows that 4,749 candidates were registered through reciprocity during the last four years and that there was a positive increase each year over the registration of the previous year. A study of the totals for the different states shows that of the 4,749 registered during the four years 1,071 or 22.6 per cent. obtained their original licenses in Illinois. This is more than twice the number coming from any other state. The states furnishing the next highest numbers are New York, with 462, Iowa with 381, and Missouri with 289. The states marked with an asterik (*) do not have reciprocal relations and would not appear in this table except for the fact that some states, like Colorado, and New Jersey, will accept a physician's credentials if satisfactory, whether the state issuing his original license returns the favor or not.

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA																																									
1	Birmingham Medical College.—R	22	9																	2	0													1	0								1
2	University of Alabama, Med. Dept.—R	23	10	1	0													6	0															3	1								2
	ARKANSAS																																									
3	College of Physicians and Surg.—R					5	6																											1	1								3
4	Univ. of Arkansas, Med. Dept.—R					15	3	1	0									1	0					0	1									0	1								4
	CALIFORNIA																																									
5	California Eclectic Med. College.—E							3	2																																		5
6	College of P. and S., Los Angeles.—R			2	0			11	2																																		6
7	Coll. of P. and S., San Francisco.—R							12	6																																		7
8	Cooper Medical College.—R							16	2																																		8
9	Hahnemann Medical College of Pacific.—H							4	1																																		9
10	Oakland College of Med. and Surg.—R							3	0																																		10
11	Univ. of California, Med. Dept.—R							10	0																																		11
	COLORADO																																									
12	Univ. of Colorado, Med. Dept.—R							1	0	12	0																																12
	CONNECTICUT																																									
13	Yale Medical School							1	0			12	0																														13
	DISTRICT OF COLUMBIA																																									
14	George Washington University.—R							1	1							15	2			1	0	1	0	1	0									2	0								14
15	Georgetown Univ., School of Med.—R			1	0							4	0			6	2							1	0											1	1						15
16	Howard University, Med. Dept.—R											0	1	1	0	4	5	2	0	3	0			2	0					1	0	1	0			2	1	1	2			16
	GEORGIA																																									
17	Atlanta College of Physicians and Surg.—R	1	5					1	0									11	3	53	0																						17
18	Atlanta School of Medicine.—R	3	6															4	1	35	0																	1	0				18
19	Georgia College of Eclectic M. and S.—E																	4	1																								19
20	Hospital Medical College, Atlanta.—E																	7	0																								20
21	Medical College of Georgia.—R	1	0															3	1	13	0																	0	1	0	2			21
	ILLINOIS																																									
22	Bennett Medical College.—R									1	0											0	1	23	8	1	0			0	1											22
23	Chicago Coll. of Med. and Surg.—R							0	1													1	1	91	9	6	0	1	0			1	0									23
24	College of Med. and Surg.—Ph.M																							8	8	1	0	1	0			1	0									24
25	College of Physicians and Surg.—R	1	1	0	1			10	0			0	1									2	2	94	13	1	0	1	0			1	1					1	0			25
26	Hahnemann Medical College and Hosp.—H			2	0			1	1			2	0									1	0	25	4	1	1	3	0										1	0		26
27	Hering Medical College.—H									1	0													3	2	1	0	1	0													27
28	Jenner Medical College.—R																							15	4	1	0															28
29	National Medical University.—P																							1	5																	29
30	Northwestern Univ. Med. School.—R			1	0			5	0									3	0			8	2	121	1	2	0	1	0	2	0			1	0				1	0		30
31	Reliance Medical College.—R																							7	3																	31
32	Rush Medical College.—R					1	0	6	3	3	0							2	0			1	1	63	0			1	0													32
	INDIANA																																									
33	Indiana Univ., School of Med.—R																							1	0	53	1													0	1		33
	IOWA																																									
34	Drake University, College of Medicine.—R							0	1													0	1					23	0													34
35	State University of Iowa, College of Med.—R							5	0							1	0					0	2					50	1													35
36	State University of Iowa, Homeo. Dept.—H									1	0							1	0			1	0					9	0													36
	KANSAS																																									
37	Kansas Medical College.—R																													12	1											37
38	Univ. of Kansas, School of Med.—R																													18	0											38
	KENTUCKY																																									
39	Louisville National Medical College.—R																	1	0													0	1					0	1			39
40	Univ. of Louisville, Med. Dept.—R	5	1	1	2	0	1	1	1	1	1											1	0	13	0	9	0			1	1	92	18	3	2				1	0		40
	LOUISIANA																																									
41	Flint Medical College.—R																			1	0													1	2							41
42	Tulane University, Med. Dept.—R	3	1	1	0	11	0	2	1									6	0	3	0			1	0									65	2				1	0		42
	MAINE																																									
43	Medical School of Maine.—R							1	0			1	0					1	0																	20	0		4	1		43
	MARYLAND																																									
44	Baltimore Medical College.—R			1	0			1	0			7	5									1	0	1	0	1	0							1	1	3	0	21	4	5	2	44
45	College of Physicians and Surg.—R							0	1			2	2	2	0																							12	1	3	0		45
46	Johns Hopkins Univ., Med. Dept.—R	3	0					5	0			4	0													1	0			1	0	1	0					22	0	3	0		46
47	Maryland Medical College.—R	1	0									0	2																					0	1	2	0	5	9	2	4		47
48	Univ. of Maryland, School of Med.—R							2	1			0	2	1	1			3	0	1	0	1	0	1	0											36	11	6	1			48
	MASSACHUSETTS																																									
49	Boston University School of Medicine.—H											4	1											1	0											4	0		13	0			49
50	College of Physicians and Surgeons.—R											1	1																							4	2		6	15			50
51	Harvard Medical School.—R					1	0	3	0	2	0	3	0					2	0					1	0	1	0									9	0	1	0	42	2	2	0	51
52	Tufts College Medical School.—R							1	0			1	0																							10	1			62	7	1	0	52
	MICHIGAN																																									
53	Detroit College of Medicine.—R							2	0															2	0															34	1	53
54	Detroit Homeopathic College.—R																																							4	2	54
55	Univ. of Mich., Dept. of M. and S.—R					1	0	6	0									1	0			3	0			2	0											1	0	61	0	55
56	University of Mich., Homeo. College.—H																							1	0	1	0					1	0						1	0	13	0	56
	MINNESOTA																																									
57	Univ. of Minn., College of M. and S.—R							2	0													1	0																			57
58	Hamline University, Med. Dept.—R							1	1													1	0																			58
	MISSISSIPPI																																									
59	Mississippi Medical College.—R																																									59
	MISSOURI																																									
60	American Medical College									0	1																															60
61	Barnes Medical College.—R	0	1			1	1					0	1					3	0			3	0	20	11			2	0	3	0											61
62	Eclectic Medical University, Kansas City					4	0															0	1							1	3											62
63	Ensworth Medical College.—R					0	1			0	1											1	1					2	1	1	6											63
64	Kansas City Hahnemann Med. College.—H					10	0																							3	2											64
65	St. Louis University, School of Medicine.—R			1	0			2	0													2	1	45	1	1	0			2	2	1	0									65
66	St. Louis College of Phys. and Surgs.—R					2	5			0	1											1	0	8	10	0	1	1	0	1	1	0											66
67	University Medical College, Kansas City.—R			1	0	6	0	1	1																			5	1	13	3											67
68	Washington University, Med. Dept.—R					1	0																	36	1					1	0											68
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

| Marginal Number | 22 Minnesota | | 23 Mississippi | | 24 Missouri | | 25 Montana | | 26 Nebraska | | 27 Nevada | | 28 New Hampshire | | 29 New Jersey | | 30 New Mexico | | 31 New York | | 32 North Carolina | | 33 North Dakota | | 34 Ohio | | 35 Oklahoma | | 36 Oregon | | 37 Pennsylvania | | 38 Rhode Island | | 39 South Carolina | | 40 South Dakota | | 41 Tennessee | | 42 Texas | | 43 Utah | | 44 Vermont | | 45 Virginia | | 46 Washington | | 47 West Virginia | | 48 Wisconsin | | 49 Wyoming | | Totals: | Examined—Passed | Examined—Failed | Percentage of Failure | No. States Ex. in | Marginal Number |
|---|---|---

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	NEBRASKA																																									
69	John A. Creighton Medical College.—R							2	0									0	1																									69
70	Lincoln Medical College.—E																					0	1																					70
71	University of Nebraska, College of Med.—R																	1	0			1	1																					71
	NEW HAMPSHIRE																																									
72	Dartmouth Medical School.—R											2	0																							1	0		9	1				72
	NEW YORK																																									
73	Albany Medical College.—R																	2	0	1	0																					73
74	Columbia University, Coll. of P. and S.—R	1	0					7	0			2	0					1	0	1	0			1	0					3	0			3	0	1	0	3	0			74
75	Cornell University Medical College.—R	1	0									1	0											1	0			1	0					1	0			1	0			75
76	Eclectic Med. Coll., of City of New York.—E																																									76
77	Fordham University, School of Medicine.—R																																									77
78	Long Island College Hospital.—R							1	0			2	0																													78
79	New York Homeo. Med. Coll. and Hosp.—H							1	0			1	0																													79
80	N. Y. Med. Coll. and Hosp. for Women.—H							1	0																																	80
81	Syracuse University, College of Medicine.—R							1	2																																	81
82	Univ. and Bellevue Hosp. and Med. Coll.—R	1	0					2	0			2	0			1	0							1	0	1	0			0	1											82
83	University of Buffalo, Medical Dept.—R							1	0													1	0	1	0							1	0							1	0	83
	NORTH CAROLINA																																									
84	Leonard School of Medicine.—R	2	7													1	0	1	0	5	2															0	1	0	1			84
85	North Carolina Medical College																	1	0																							85
	OHIO																																									
86	Cleveland College of P. and S.—R							1	1																																	86
87	Cleveland Homeo. Medical College.—H					1	0	1	2																																	87
88	Eclectic Medical College.—E					0	1	0	1	0	1											1	0	2	1	1	1			0	1	2	1					0	1			88
89	Ohio-Miami Medical College.—R									1	0																					3	0									89
90	Pulte Medical College.—H							1	1																	1	0															90
91	Starling-Ohio Medical College.—R							1	0													1	0																			91
92	Toledo Medical College.—R																																									92
93	Western Reserve University, Medical Dept.—R							1	1																					1	0											93
	OREGON																																									
94	Willamette University, Medical Dept.—R																					1	0																			94
95	University of Oregon, Medical Dept.—R							1	0																																	95
	PENNSYLVANIA																																									
96	Hahnemann Med. College and Hospital.—H							3	1			4	0											1	0	1	0					1	0			2	1			1	0			96
97	Jefferson Medical College.—R	2	0			3	0	4	1	1	0	4	0	4	0	0	1	2	0			2	0	5	0			5	0							3	0	2	0	1	0	97
98	Medico-Chirurgical College of Philadelphia.—R			1	0									2	0			1	0			2	0			0	1									1	0					98
99	Temple University, Medical Department.—R																																									99
100	Univ. of Pennsylvania, Dept. of Med.—R	2	0	1	0			1	0			1	0	3	0			5	0			1	0	2	0	3	0	2	0					5	0	14	0	5	0			100
101	Univ. of Pittsburgh, School of Medicine.—R																																								101
102	Womans Med. Coll. of Pennsylvania.—R									1	0			1	0	0	1									1	0											1	0			102
	SOUTH CAROLINA																																								
103	Med. Coll. of the State of So. Carolina.—R			0	2			2	0									5	2	2	0																					103
	TENNESSEE																																								
104	College of Physicians and Surgs., Memphis.—R					2	2																													1	0					104
105	Knoxville Medical College.—R	0	1																	0	1																					105
106	Memphis Hospital Medical College.—R	2	4	1	0	13	3											2	0			0	2													13	12					106
107	Meharry Medical College.—R	0	6			4	3											3	1	15	4			2	4							2	4	1	3							107
108	Tennessee Medical College.—R																																									108
109	Univs. of Nashville and Tenn., Med. Dept.—R	10	5	0	1	5	0	0	1									3	1	3	0	1	2	1	0							2	0	7	0							109
110	University of West Tennessee, Med. Dept.—R																																									110
111	Vanderbilt University, Med. Dept.—R	4	0			1	1	4	0	2	0							3	0	1	0			3	0							2	0	2	0							111
	TEXAS																																								
112	Baylor University, College of Medicine.—R					1	0																													0	1					112
113	Fort Worth University, Medical Dept.—R																																									113
114	Southwestern University Medical College.—R					4	0																																			114
115	University of Texas, Dept. of Medicine.—R																																									115
	VERMONT																																								
116	University of Vermont, College of Med.—R							1	0			3	1					1	0																	1	0		3	0			116
	VIRGINIA																																									
117	Medical College of Virginia.—R																	1	0	1	0			1	0																	117
118	University of Virginia, Dept. of Med.—R	2	0									1	0	1	0	2	1																			2	0					118
119	University College of Medicine.—R											1	0					1	0																	0	1	0	2			119
	WISCONSIN																																									
120	Marquette University, Medical Dept.—R																					1	0																			120
121	Wisconsin Coll. of Phys. and Surgs.—R																																									121
	CANADIAN																																									
122	Laval University, Medical Dept							2	0																											4	1		0	3			122
123	Manitoba Medical College																																									123
124	McGill University, Medical Faculty							2	0													1	0	2	0											2	0		4	0			124
125	Queens University, Medical Faculty					1	0					1	0													1	0	1	0									1	0			125
126	University of Toronto, Faculty of Med							1	1													1	0													1	0					126
127	Western University, Medical Dept							1	0																																	127
128	Foreign Colleges	2	0					6	1					1	1	1	1	2	1					6	2	0	1									1	0	6	4	1	0	128
129	Miscellaneous Medical Colleges	2	7	0	5	3	1	34	7	22	0	3	2	5	0	1	0	6	3	6	2	4	5	16	12	5	3	2	1	2	3	6	10	3	6	1	0	4	2	3	6	13	0	129
130	Undergraduates																																						6	41			130
	Totals by States	158		24		124		251		53		87		23		45		117		157		71		731		106		117		91		154		138		78		163		297		134	
	Totals—Examined—Passed	94		15		96		204		48		69		21		32		102		148		47		631		97		113		66		119		104		73		131		197		131	
	Totals—Examined—Failed	64		9		28		47		5		18		2		13		15		9		24		100		9		4		25		35		34		5		32		100		3	
	Percentage of Failures	40.5		37.5		22.6		18.7		9.4		20.7		8.7		28.9		12.8		5.7		33.8		13.7		8.5		3.4		27.5		22.7		24.6		6.4		19.6		33.6		2.2	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Pandpathic.

Marginal Number	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. In	Marginal Number
	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming						
	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
69				3 0	39 0										3 0				2 0						1 0		2 0	53	52	1	1.9	8	69
70					11 0																						2 0	15	14	1	6.7	4	70
71					14 0										0 1													18	16	2	11.1	4	71
72							7 1										1 0											22	20	2	9.1	5	72
73		1 0		1 0						38 3						1 0	1 0							2 0				50	47	3	6.0	8	73
74	2 0		2 0	2 0				5 0		67 1				1 0	2 0	5 0	2 0							4 0				116	115	1	0.9	20	74
75	1 0			1 0			1 0	1 0		64 0															1 0			76	76	0	0.	13	75
76								2 0		6 4																		12	8	4	33.3	2	76
77										2 0																		2	2	0	0.	1	77
78	1 0							2 2		60 9								1 0				1 0		1 0				80	69	11	13.7	8	78
79								3 0		18 5																		28	23	5	17.9	4	79
80										0 2																		3	1	2	66.7	2	80
81	1 0									21 3						1 0			1 0									30	25	5	16.7	5	81
82				1 0				3 0		65 2				1 0	0 1				0 1		1 0							84	79	5	6.0	14	82
83										35 4				0 1										1 1		1 0		48	42	6	12.5	9	83
84											5 3			1 1		0 1		0 5		1 0				7 4				48	23	25	52.1	12	84
85									1 0		10 2							0 2			1 0					1 0			18	14	4	22.2	6	85
86													20 0			1 0												23	22	1	4.4	3	86
87				1 0						1 0			4 1	3 2		1 0						1 0						18	13	5	27.8	8	87
88													7 2	1 0	0 1	2 0			2 0						2 4			35	20	15	42.9	15	88
89				1 0									35 4															44	40	4	9.1	4	89
90													3 0			1 0												7	6	1	14.3	4	90
91			1 0										43 1			1 0												48	47	1	2.1	5	91
92													9 0															9	9	0	0.	1	92
93													21 0		1 0							1 0			2 0			28	27	1	3.6	6	93
94															7 2													12	10	2	16.7	3	94
95															11 4										5 0			21	17	4	19.0	3	95
96	3 1							3 1		2 0						28 4												63	54	9	14.3	15	96
97	3 2	1 0		2 0		1 0		12 1		6 0	11	1 0	3 0	2 1	3 1	61 0	2 0	1 0				2 0	6 0		5 1	5 0	1 0		174	166	8	4.6	33	97
98								2 2		2 0	1 0		1 0	1 0	1 0	57 8						1 0	1 1		1 0				87	75	12	13.8	16	98
99																32 3												35	32	3	8.6	1	99
100	3 0	1 0						14 0		11 1	5 0		3 0	1 0	0 1	90 2				1 0	2 0	2 0		6 0	4 1	2 0	1 0		196	191	5	2.6	29	100
101															2 2	59 6										5 1			75	66	9	12.0	3	101
102			1 0	1 0				3 0		6 2					1 0	16 0					3 0	1 0				2 0			41	38	3	7.3	14	102
103																		34 13						1 0					61	44	17	27.9	6	103
104		3 3												1 0						6 2	1 0			1 0					135	93	42	31.1	13	104
105		0 1									0 1									1 0									5	1	4	80.0	5	105
106	17 10			1 1					1 0						0 1					35 2	14 0			1 0				103	59	44	42.7	17	107
107	1 2	2 1								1 0		1 2			0 2			0 2		18 7	5 0				1 2			135	93	42	31.1	13	106
108										1 2					0 2					21 1								29	22	7	24.1	4	108
109	6 6	1 0	0 1						1 1	1 0				3 1		2 0		1 0		30 5	7 0				0 1				109	84	25	22.9	21	109
110											1 0			1 2				0 1		2 1									9	4	5	55.6	5	110
111	3 0	1 1	1 0								1 0			2 1				1 2		11 0	6 0			1 0	1 0				55	50	5	9.1	19	111
112																					9 0								11	10	1	9.1	3	112
113														2 0							19 0								21	21	0	0.	2	113
114														1 0							11 0								16	16	0	0.	3	114
115			1 0							2 0											34 0								37	37	0	0.	3	115
116							4 0									1 0	2 1						15 1		1 0				35	32	3	8.6	10	116
117		1 0								1 0	2 0					1 0		1 0						29 0		5 0			43	43	0	0.	10	117
118		1 0												1 0						3 0				21 0		2 0			37	36	1	2.7	10	118
119								2 1		0 1	5 1			1 0			0 1							13 1		1 0			32	24	8	25.0	11	119
120	1 4			1 0								3 0													0 2		42 7		61	48	13	21.3	6	120
121												1 0															6 0		7	7	0	0.	2	121
122	0 2						3 2					1 0			0 1		0 2						1 0					22	11	11	50.0	9	122
123	1 0																																	
124	3 0			1 0			1 0			4 0		2 0		1 0	1 0	1 0			1 0						2 0				3	3	0	0.	2	123
125				1 0						2 0		7 1	1 0			1 0			1 0						1 0		1 0		28	28	0	0.	16	124
126	3 0			3 0				0 1		8 0		7 1	1 0		1 0	1 0			1 0										20	18	2	10.0	12	125
127										4 1		6 0	1 0		1 0	2 1									5 1				31	27	4	12.9	11	126
128	3 0			2 0		3 0		1 5		20 21	1 0	1 0	2 0		2 1						1 0	1 0	1 0		1 0		2 0		8	7	1	12.5	5	127
129	0 1	1 1	0	5 6		1 1		0 1	3 0	6 1	14 5	1 1	6 2	23.12	8 15	11 4	0 1	3 3	8 3	23 7	11 2	1 2		7 3	28 13	7 4		1 0	108	70	38	35.2	24	128
130		39 9													5 0					142 25								478	311	167	34.9	45	129
	98	234	204	97	80	13	42	80	7	587	94	47	182	142	148	503	33	105	61	367	167	38	22	136	197	113	78	10	353	192	161	45.6	4	130
	76	84	181	73	80	12	34	63	6	515	79	42	172	100	93	451	23	61	52	315	162	34	21	122	154	88	71	10	7004					
	22	150	23	24	0	1	8	17	1	72	15	5	10	42	55	52	10	14	9	52	5	4	1	14	43	25	7	0		5712	1292			
	22.4	64.1	11.3	24.7	0.	7.7	19.0	21.2	14.3	12.3	16.0	10.6	5.5	29.6	37.2	10.3	30.3	41.9	14.8	14.2	3.0	10.5	45	10.3	21.8	22.1	6.4	0				18.4		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49						

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA																																									
1	Birmingham Medical College.—R	22	4																	2	0													1	0								1
2	University of Alabama, Med. Dept.—R	23	10	1	0													6	0															3	1								2
	ARKANSAS																																									
3	College of Physicians and Surgs.—R					5	6																											1	1								3
4	Univ. of Arkansas, Med. Dept.—R					15	3	1	0									1	0					0	1									0	1								4
	CALIFORNIA																																									
5	California Eclectic Med. College.—E							2	1																																	5
6	College of P. and S., Los Angeles.—R			2	0			11	2																																	6
7	Coll. of P. and S., San Francisco							11	5																																	7
8	Cooper Medical College.—R							16	2																																	8
9	Hahnemann Medical College of Pacific.—H							4	1																																	9
10	Oakland College of Med. and Surg.—R							3	0																																	10
11	Univ. of California, Med. Dept.—R							10	0																																	11
	COLORADO																																									
12	Univ. of Colorado, Med. Dept.—R									12	0																																12
	CONNECTICUT																																									
13	Yale Medical School											12	0																														13
	DISTRICT OF COLUMBIA																																									
14	George Washington University.—R							1	1							15	2			1	0	1	0	1	0													2	0				14
15	Georgetown Univ., School of Med.—R			1	0							4	0			6	2							1	0														1	1		15
16	Howard University, Med. Dept.—R											0	1	1	0	4	5	2	0	3	0			2	0					1	0							2	1	0	2		16
	GEORGIA																																									
17	Atlanta College of Physicians and Surgs.—R	1	5															11	2	53	0																					17
18	Atlanta School of Medicine.—R	3	6															4	1	35	0																	1	0				18
19	Georgia College of Eclectic M. and S.—E																	4	0																							19
20	Hospital Medical College, Atlanta.—E																	7	0																							20
21	Medical College of Georgia.—R	1	0															1	1	13	0																	0	1				21
	ILLINOIS																																									
22	Bennett Medical College.—R									1	0											0	1	23	8	1	0			0	1											22
23	Chicago Coll. of Med. and Surg.—R							0	1													1	1	91	9	6	0	1	0													23
24	College of Med. and Surg.—Ph.M							4	0															8	8	1	0	1	0			1	0									24
25	College of Physicians and Surgs.—R							4	0													1	2	94	13	1	0	1	0			0	1					1	0			25
26	Hahnemann Medical College and Hosp.—H			2	0			1	0			2	0									1	0	25	4	1	1	2	0											1	0	26
27	Hering Medical College.—H									1	0													3	2	1	0	1	0													27
28	Jenner Medical College.—R																							15	4	1	0															28
29	National Medical University.—P																							1	5																	29
30	Northwestern Univ. Med. School.—R			1	0			4	0													5	2	119	1	2	0	1	0	2	0							1	0			30
31	Reliance Medical College.—R																							7	3																	31
32	Rush Medical College.—R							3	0	2	0											1	0	59	0			1	0													32
	INDIANA																																									
33	Indiana Univ., School of Med.—R																							1	0	58	1													0	1		33
	IOWA																																									
34	Drake Univ., College of Medicine.—R																					0	1					23	0													34
35	State Univ. of Iowa, Coll. of Med.—R							3	0							1	0					0	1					50	1													35
36	State Univ. of Iowa, Homeo. Dept.—H									1	0											1	0					9	0													36
	KANSAS																																									
37	Kansas Medical College.—R																													12	0											37
38	Univ. of Kansas, School of Med.—R																													18	0											38
	KENTUCKY																																									
39	Louisville, National Medical College.—R																	1	0													0	1									39
40	Univ. of Louisville, Med. Dept.—R	5	1	1	2	0	1			1	0											1	0	12	0	3	0			1	1	90	18	3	2						40
	LOUISIANA																																									
41	Flint Medical College.—R																			1	0													1	2							41
42	Tulane University, Med. Dept.R	3	1			10	0	1	1									6	0	3	0													62	2					1	0	42
	MAINE																																									
43	Medical School of Maine.—R																																			20	0			1	1		43
	MARYLAND																																									
44	Baltimore Medical College.—R			1	0			1	0			7	5									1	0	1	0	1	0							1	1	2	0	21	2	5	2		44
45	College of Physicians and Surgs.—R											2	1	2	0																							11	1	3	0		45
46	Johns Hopkins Univ., Med. Dept.—R	3	0					5	0			3	0													1	0			1	0							20	0	3	0		46
47	Maryland Medical College.—R	1	0									0	2																					0	1	2	0	5	8	1	4		47
48	Univ. of Maryland, School of Med.—R											0	2	1	1			3	0	1	0			1	0													36	10	4	1		48
	MASSACHUSETTS																																									
49	Boston Univ. School of Medicine.—H											2	0											1	0											3	0			13	0		49
50	College of Physicians and Surgeons.—R											1	1																							4	2			6	15		50
51	Harvard Medical School.—R					1	0	3	0	2	0	2	0					1	0					1	0	1	0									7	0	1	0	42	2	1	0
52	Tufts College Medical School.—R											1	0																							10	1			62	7	1	0
	MICHIGAN																																									
53	Detroit College of Medicine.—R																																							33	1	53
54	Detroit Homeopathic College.—H																																							4	2	54
55	Univ. of Mich., Dept. of M. and S.—R							1	0									1	0							2	0													60	0	55
56	University of Mich., Homeo. College.—H																							1	0	1	0					1	0							1	0	56
	MINNESOTA																																									
57	Univ. of Minn., Coll. of M. and S.—R							1	0													1	0																			57
58	Hamline University, Med. Dept.—R							1	1													1	0																			58
	MISSISSIPPI																																									
59	Mississippi Medical College.—R																																									59
	MISSOURI																																									
60	American Medical College.—																																									60
61	Barnes Medical College.—	0	1			1	1			0	1							1	0			3	0	20	9			2	0	2	0											61
62	Eclectic Medical University, Kansas City					4	0															0	1							1	2											62
63	Ensworth Medical College.—R					0	1			0	1											1	1					2	1	1	5											63
64	Kansas City Hahnemann Medical College.H					10	0																							3	2											64
65	St. Louis University, School of Medicine.—R			1	0			2	0													1	0	45	1	1	0			2	2	1	0									65
66	St. Louis College of Phys. and Surgs.—R					1	5			0	1													8	10	0	1	1	0	1	1											66
67	University Medical College, Kansas City.—R					6	0																					3	1	13	3											67
68	Washington University, Med. Dept.—R					1	0																	35	1					1	0											68
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

| Marginal Number | 22 Minnesota | | 23 Mississippi | | 24 Missouri | | 25 Montana | | 26 Nebraska | | 27 Nevada | | 28 New Hampshire | | 29 New Jersey | | 30 New Mexico | | 31 New York | | 32 North Carolina | | 33 North Dakota | | 34 Ohio | | 35 Oklahoma | | 36 Oregon | | 37 Pennsylvania | | 38 Rhode Island | | 39 South Carolina | | 40 South Dakota | | 41 Tennessee | | 42 Texas | | 43 Utah | | 44 Vermont | | 45 Virginia | | 46 Washington | | 47 West Virginia | | 48 Wisconsin | | 49 Wyoming | | Totals: | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Ex. in | Marginal Number |
|---|---|---

TABLE B.—GRADUATES OF 1906 TO 1910 INCLUSIVE,

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan		Marginal Number
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	NEBRASKA																																										
69	John A. Creighton, Medical College.—R							1	0									0	1																									69
70	Lincoln Medical College.—E																					0	1									1	0											70
71	University of Nebraska, College of Med.—R																																											71
	NEW HAMPSHIRE																																										
72	Dartmouth Medical School.—R											2	0																							1	0		9	1				72
	NEW YORK																																										
73	Albany Medical College.—R																																										73
74	Columbia Univ. Coll. of Phys. and Surgs.—R	1	0					4	0			1	0							1	0									3	0					1	0	3	0			74
75	Cornell University Medical College.—R	1	0																					1	0			1	0					1	0			1	0			75
76	Eclectic Med. Coll., of City of New York.—E																																									76
77	Fordham University, School of Medicine.—R																																									77
78	Long Island College Hospital.—R											2	0																													78
79	New York Homeo. Med. Coll. and Hosp.—H							1	0																																	79
80	N. Y. Med. Coll. and Hosp. for Women.—E																																										80
81	Syracuse University, College of Medicine.—R																																									81
82	University and Bellevue Hosp. and Med. Coll.—H							2	0			2	0			1	0									1	0																	82
83	University of Buffalo, Medical Dept.—R																															1	0							1	0			83
	NORTH CAROLINA																																										
84	Leonard School of Medicine.—R	2	7															1	0	5	1															0	1	0	1			84
85	North Carolina Medical College																	1	0																									85
	OHIO																																										
86	Cleveland, Ohio, College P. and S.—R																																									86	
87	Cleveland Homeo. Medical College.—H																																										87
88	Eclectic Medical College.—E					0	1			0	1													2	1	1	1			0	1	2	1									88
89	Ohio-Miami Medical College.—R									1	0															1	0					3	0									89
90	Pulte Medical College.—H																																									90
91	Starling-Ohio Medical College.—R																					1	0																			91
92	Toledo Medical College.—R																																									92
93	Western Reserve University, Medical Dept.—R							1	0																					1	0											93
	OREGON																																										
94	Willamette University, Medical Dept.—R																					1	0																			94
95	University of Oregon, Medical Dept.—R							1	0																																	95
	PENNSYLVANIA																																										
96	Hahnemann Med. College and Hospital.—H							2	1			4	0													1	0					1	0			2	1		1	0		96
97	Jefferson Medical College.—R	2	0			2	0	1	0	1	0	3	0	4	0	0	1	1	0			2	0	5	0			5	0							3	0		1	0		97
98	Medico-Chirurgical Coll. of Philadelphia.—R													2	0							1	0			0	1										1	0				98
99	Temple University, Medical Department.—R																																									99
100	Univ. of Pennsylvania, Dept. of Med.—R	2	0									1	0	2	0			1	0			1	0			3	0	1	0					5	0	14	0	4	0			100
101	Univ. of Pittsburgh, School of Medicine.—R																																									101
102	Woman's Med. Coll. of Pennsylvania.—R									1	0			1	0	0	1																					1	0			102
	SOUTH CAROLINA																																										
103	Med. Coll of the State of So. Carolina.—R			0	2			1	0									4	2	2	0																					103
	TENNESSEE																																										
104	College of Physicians and Surgs., Memphis.—R					2	2																											1	0							104
105	Knoxville Medical College.—R	0	1																	0	1																					105
106	Memphis Hospital Medical College.—R	2	4			12	2											2	0															12	11							106
107	Meharry Medical College.—R	0	5			4	3											2	1	15	4			2	4					2	4	1	3									107
108	Tennessee Medical College.—R																																										108
109	Universities of Nashville and Tenn., Med. Dept.—R	9	5			4	0											3	1	3	0			1	0					2	0	7	0									109
110	University of West Tennessee, Med. Dept.—R																																									110	
111	Vanderbilt University, Medical Department.—R	3	0					4	0	2	0							1	0	1	0			3	0					1	9	2	0									111
	TEXAS																																										
112	Baylor University, College of Medicine.—R					1	0																																			112
113	Fort Worth University, Medical Dept.—R																																									113
114	Southwestern University Medical College.—R					4	0																																			114
115	University of Texas, Dept. of Medicine.—R																																										115
	VERMONT																																										
116	University of Vermont, College of Medicine.—R							1	0			1	0																							1	0		2	0				116
	VIRGINIA																																										
117	Medical College of Virginia.—R																	1	0					1	0																	117
118	University of Virginia, Dept. of Medicine.—R	2	0									1	0	1	0	1	0																			2	0					118
119	University College of Medicine.—R																	1	0																	0	1	0	2			119
	WISCONSIN																																										
120	Marquette University, Medical Dept.—R																			1	0																					120
121	Wisconsin College of phys. and Surgs.—R																																									121
	CANADIAN																																										
122	Laval University, Medical Dept																																			2	1		0	1				122
123	Manitoba Medical College																																									123	
124	McGill University, Medical Faculty							1	0															2	0											2	0		3	0				124
125	Queen's University, Medical Faculty					1	0					1	0															1	0	1	0							1	0				125
126	University of Toronto, Faculty of Medicine							1	0																																	126
127	Western University, Medical Dept							1	0																																	127
128	Foreign Colleges							3	1							1	1	1	1																			0	3			128
129	Miscellaneous Medical Colleges	2	7			1	0	11	2	20	0	3	1	5	0			1	2	5	1	3	1	12	10	2	1	2	0			4	7	0	2			4	2	1	3	9	0	129
	Total by States	150		14		110		144		49		70		20		41		81		152		41		698		93		114		81		142		123		67		154		220		126	
	Totals—Examined—Passed	88		10		85		125		45		57		19		29		69		145		29		604		93		111		63		110		96		67		126		170		123	
	Totals—Examined—Failed	62		4		25		19		4		13		1		12		12		7		12		94		6		3		18		32		27		5		28		50		3	
	Percentage of Failures	41.3		28.6		22.7		13.2		8.2		18.6		5.0		29.3		14.8		4.6		29.3		13.5		6.1		2.6		22.2		22.5		22.0		7.5		18.2		22.8		2.4	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

Marginal Number	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	Totals: Examined	Passed	Failed	Percentage of Failures	No. States Rep. in	Marginal Number
	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virg'n'a	Wisconsin	Wyoming						
	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
69				3 0	39 0										1 0				2 0						1 0			2 0	50	49	1	2.0	8	69
70					11 0																							2 0	15	14	1	6.7	4	70
71					14 0																								14	14	0	0.	1	71
72							7 0										1 0												21	20	1	4.8	5	72
73				1 0						38 3																			42	39	3	7.1	2	73
74	2 0		2 0	2 0				4 0		65 1				1 0		5 0	1 0								8 0				100	99	1	1.0	16	74
75							1 0	1 0		64 0																			72	72	0	0.	9	75
76								2 0		6 4																			12	8	4	33.3	2	76
77										2 0																			2	2	0	0.	1	77
78								2 2		60 9												1 0							76	65	11	14.5	4	78
79								3 0		17 4																			25	21	4	16.0	3	79
80										0 2																			2	0	2	.100	1	80
81	1 0									21 3						1 0			1 0										27	24	3	11.1	4	81
82								2 0		65 1				1 0	0 1														77	75	2	2.6	5	82
83										35 3																			40	37	3	7.5	2	83
84											5 2			1 1		0 1		0 4		1 0									45	22	23	51.1	11	84
85									1 0		10 2							0 2			1 0			7 4		1 0			18	14	4	22.2	6	85
86										19 0						1 0													20	20	0	0.	2	86
87				1 0						1 0			4 1	1 0		1 0													9	8	1	11.1	5	87
88										7 2			7 2		0 1	2 0			1 0							2 4			30	17	13	43.3	11	88
89				1 0						35 4																			44	40	4	9.1	4	89
90										3 0						1 0													5	5	0	0.	3	90
91										42 1						1 0													45	44	1	2.2	3	91
92										9 0																			9	9	0	0.	1	92
93										21 0					1 0							1 0							26	26	0	0.	6	93
94															7 1										2 0				11	10	1	9.1	3	94
95															11 4										5 0				21	17	4	19.0	3	95
96	2 1							3 1		2 0			1 0	1 0		27 4													56	48	8	14.3	13	96
97	3 2	1 0		2 0				9 0		4 0	11 0	1 0	3 0	1 0	2 1	59 0	2 0	1 0			1 0	6 0			3 0	5 0	1 0		149	145	4	2.7	31	97
98								1 0		1 0				1 0		56 8					1 0	1 1							75	65	10	13.3	10	98
99																32 3													35	32	3	8.6	1	99
100	1 0	1 0						8 0		8 0	5 0		3 0	1 0	0 1	87 2				1 0	1 0	2 0		5 0	1 1	2 0			164	160	4	2.4	25	100
101															2 2	59 6										5 1			75	66	9	12.0	3	101
102			1 0	1 0				3 0		5 2					1 0	16 0					1 0	1 0				2 0			37	34	3	8.1	13	102
103																		34 12						1 0					58	42	16	27.6	6	103
104		3 3												1 0						6 2	1 0								21	14	7	33.3	6	104
105		0 1																		1 0									4	1	3	75.0	3	105
106		10 17		0 1											0 1					33 2	10 0			1 0					118	82	36	30.5	10	106
107		1 2	2 1								1 0		1 0	3 3	0 2	0 1		0 2		17 7	5 0					1 2			99	57	42	42.4	17	107
108											1 1									19 1									24	20	4	16.7	3	108
109		5 4		0 1					1 0	1 0				2 0		2 0		1 0		29 4	5 0								90	75	15	16.7	16	109
110											1 0			1 2				0 1		2 1									9	4	5	55.6	5	110
111		3 0	1 1	1 0							1 0			2 0				1 2		10 0	5 0			0 1	1 0				45	42	3	6.7	17	111
112																					8 0								9	9	0	0.	2	112
113													2 0								19 0								21	21	0	0.	2	113
114													1 0								11 0								16	16	0	0.	3	114
115			1 0							1 0											34 0								36	36	0	0.	3	115
116							4 0									1 0	2 1						15 1		1 0				30	28	2	6.7	9	116
117											2 0					1 0		1 0						28 0		5 0			39	39	0	0.	7	117
118													1 0			1 0								20 0		2 0			31	31	0	0.	9	118
119								2 1		0 1	5 1			1 0			0 1			1 0				13 1		1 0			31	23	8	25.8	10	119
120	1 4											2 0													0 2		39 7		56	43	13	23.2	5	120
121												1 0															6 0		7	7	0	0.	2	121
122	0 1						2 2					1 0					0 1												11	5	6	54.5	6	122
123																																		123
124	2 0						1 0			3 0		1 0			1 0	1 0									1 0		1 0		19	19	0	0.	12	124
125								0 1		6 0		1 0	1 0			1 0													16	15	1	6.3	11	125
126	2 0			3 0						3 1		4 0	1 0		1 0	1 0			1 0						1 0				18	17	1	5.6	9	126
127												1 0	2 0		1 0										1 0				6	6	0	0.	5	127
128								0 1		7 4						1 0													30	19	11	36.7	12	128
129	0 1	0 1	1 1	1 3		0 1		0 1	1 0	1 0	14 6	1 0	3 1	5 2	2 4	9 1	0 1	2 3	4 1	20 5	4 0	1 0	1 0	5 2	7 3	7 2			247	172	75	30.4	40	129
	81	84	197	61	78	4	37	60	3	511	87	33	171	87	79	483	25	98	39	183	132	32	20	119	92	107	68	8	5678					
	63	38	174	47	78	3	30	51	3	468	76	31	162	67	50	437	18	58	36	159	130	32	19	108	79	84	61	8		4830				
	18	46	23	14	0	1	7	9	0	43	11	2	9	20	29	46	7	40	3	24	2	2	1	11	13	23	7	0		848				
	22.4	53.6	11.7	22.9	0.	25.0	18.9	15.0	0.	8.4	12.6	6.1	5.3	2.30	36.7	9.5	28.0	40.8	7.7	13.1	1.5	5.7	5.0	9.2	14.1	21.5	10.3	0.				14.9		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49						

Marginal Number	NAME OF COLLEGE	Graduates of All Years.					Graduates of 1906-1910.					Graduates of 1905 and Previous.					Graduates of 1910.					Marginal Number
		Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	
	ALABAMA																					
1	Birmingham Medical College.—R	35	25	10	28.6	4	35	25	10	28.6	4						22	14	8	36.4	3	1
2	University of Alabama, Medical Department.—R	48	36	12	25.0	7	46	35	11	23.9	6	2	1	1	50.0	2	34	27	7	20.6	6	2
	ARKANSAS																					
3	College of Physicians and Surgeons.—R	21	11	10	47.6	5	21	11	10	47.6	3						18	9	9	50.0	3	3
4	University of Arkansas, Medical Dept.—R	23	18	5	21.8	6	23	18	5	21.8	6						18	15	3	16.7	2	4
	CALIFORNIA																					
5	California Eclectic Medical College.—E	5	3	2	40.0	1	3	2	1	33.3	1	2	1	1	50.0	1	2	1	1	50.0	1	5
6	College of P. and S., Los Angeles.—R	16	14	2	12.5	3	16	14	2	12.5	3						10	10	0	0.	2	6
7	College of P. and S., San Francisco.—R	22	15	7	31.8	5	18	13	5	27.8	3	4	2	2	50.0	3	4	3	1	25.0	1	7
8	Cooper Medical College.—R	24	22	2	8.3	4	21	19	2	9.5	3	3	3	0	0.	3	16	14	2	12.5	2	8
9	Hahnemann Medical College of the Pacific.—H	6	5	1	16.7	2	5	4	1	20.0	1	1	1	0	0.	1	1	1	0	0.	1	9
10	Oakland College of Medicine and Surgery.—R	3	3	0	0.	1	3	3	0	0.	1						3	3	0	0.	1	10
11	University of California, Medical Dept.—R	11	10	1	9.1	2	10	10	0	0.	1	1	0	1	100.0	1	7	7	0	0.	1	11
	COLORADO																					
12	University of Colorado, Medical Dept.—R	15	15	0	0.	4	14	14	0	0.	3	1	1	0	0.	1	9	9	0	0.	2	12
	CONNECTICUT																					
13	Yale Medical School	28	27	1	3.6	8	24	23	1	4.2	6	4	4	0	0.	3	9	9	0	0.	2	13
	DISTRICT OF COLUMBIA																					
14	George Washington University.—R	38	34	4	10.5	15	33	29	4	12.1	14	5	5	0	0.	4	10	10	0	0.	4	14
15	Georgetown University, School of Medicine.—R	28	24	4	14.3	12	25	22	3	12.0	10	3	2	1	33.3	3	7	7	0	0.	4	15
16	Howard University, Medical Department.—R	44	30	14	31.8	20	39	25	14	35.9	19	5	5	0	0.	5	8	7	1	12.5	8	16
	GEORGIA																					
17	Atlanta College of Phys. and Surgs.—R	81	72	9	11.1	6	78	70	8	10.7	5	3	2	1	33.3	3	60	65	4	5.8	5	17
18	Atlanta School of Medicine.—R	59	49	10	17.0	8	59	49	10	17.0	9						50	44	6	12.0	8	18
19	Georgia College of Eclectic M. and S.—E	6	5	1	16.7	2	5	5	0	0.	2	1	0	1	100.0	1	5	5	0	0.	2	19
20	Hospital Medical College, Atlanta.—E	7	7	0	0.	1	7	7	0	0.	1						6	6	0	0.	1	20
21	Medical College of Georgia.—R	29	22	7	24.1	7	25	20	5	20.0	6	4	2	2	50.0	2	17	16	1	5.9	2	21
	ILLINOIS																					
22	Bennett Medical College.—R	47	32	15	31.9	12	45	32	13	28.9	11	2	0	2	100.0	2	33	26	7	21.2	6	22
23	Chicago College of Medicine and Surgery.—R	133	117	16	12.0	18	131	116	15	11.5	17	2	1	1	50.0	2	108	99	9	8.3	11	23
24	College of Medicine and Surgery.—Ph.M	21	12	9	42.9	6	21	12	9	42.9	6						13	9	4	30.8	3	24
25	College of Physicians and Surgeons.—R	185	159	26	14.1	24	154	132	22	14.3	20	31	27	4	12.9	15	120	104	16	3.3	15	25
26	Hahnemann Medical College and Hospital.—H	57	47	10	17.5	19	49	42	7	14.3	16	8	5	3	37.5	6	28	26	2	7.1	5	26
27	Hering Medical College.—H	10	7	3	30.0	6	10	7	3	30.0	6						9	7	2	22.2	5	27
28	Jenner Medical College.—R	20	16	4	20.0	2	20	16	4	20.0	2						19	15	4	21.1	1	28
29	National Medical University.—P	6	1	5	83.3	1	6	1	5	83.3	1											29
30	Northwestern University Medical School.—R	206	195	11	5.3	20	185	176	9	4.9	17	21	19	2	9.5	11	136	133	3	2.2	11	30
31	Reliance Medical College.—R	11	8	3	27.3	2	11	8	3	27.3	2						8	8	0	0.	2	31
32	Rush Medical College.—R	130	120	10	7.7	21	90	90	0	0.	16	40	30	10	25.0	15	65	65	0	0.	9	32
	INDIANA																					
33	Indiana University, School of Medicine.—R	60	57	3	5.0	7	60	57	3	5.0	7						56	55	1	1.8	6	33
	IOWA																					
34	Drake University, College of Medicine.—R	27	24	3	11.1	5	25	24	1	4.0	3	2	0	2	100.0	2	23	23	0	0.	2	34
35	State University of Iowa, College of Med.—E	78	72	6	7.7	10	67	63	4	5.9	9	11	9	2	18.1	6	54	52	2	3.7	4	35
36	State Univ. of Iowa, Homeopathic Dept.—H	15	15	0	0.	6	11	11	0	0.	3	4	4	0	0.	3	10	10	0	0.	2	36
	KANSAS																					
37	Kansas Medical College.—R	17	15	2	11.8	3	14	14	0	0.	3	3	1	2	66.7	3	12	12	0	0.	1	37
38	University of Kansas, School of Medicine.—R	23	22	1	4.4	3	23	22	1	4.4	3						21	21	0	0.	2	38
	KENTUCKY																					
39	Louisville National Medical College.—R	6	1	5	16.7	5	6	1	5	83.3	5						5	1	4	80.0	4	39
40	University of Louisville, Medical Dept.—R	236	183	53	22.5	27	223	175	48	21.5	24	13	8	5	38.4	11	194	159	35	18.0	19	40
	LOUISIANA																					
41	Flint Medical College—R	6	4	2	33.3	3	6	4	2	33.3	3						4	2	2	50.0	3	41
42	Tulane University, Medical Department.—R	120	114	6	5.0	16	110	104	6	5.5	13	10	10	0	0.	8	97	92	5	5.2	10	42
	MAINE																					
43	Medical School of Maine.—R	32	30	2	6.7	9	24	22	2	8.3	4	8	8	0	0.	6	22	20	2	9.1	3	43
	MARYLAND																					
44	Baltimore Medical College.—R	108	82	26	24.1	25	95	76	19	20.0	22	13	6	7	53.8	8	57	51	6	10.5	11	44
45	College of Physicians and Surgeons.—R	85	72	13	15.3	20	75	66	9	12.0	17	10	6	4	40.0	8	59	51	8	13.6	16	45
46	Johns Hopkins University, Medical Dept.—R	84	83	1	1.2	24	74	74	0	0.	22	10	9	1	10.0	7	44	44	0	0.	16	46
47	Maryland Medical College.—R	59	32	27	45.8	13	53	30	23	43.4	10	6	2	4	66.7	5	34	19	15	44.1	9	47
48	University of Maryland, School of Medicine.—R	116	92	24	20.7	21	107	85	22	20.6	18	9	7	2	22.2	6	85	68	17	20.0	12	48
	MASSACHUSETTS																					
49	Boston University School of Medicine.—H	33	29	4	12.1	8	24	23	1	4.2	7	9	6	3	33.3	5	15	15	0	0.	4	49
50	College of Physicians and Surgeons.—R	36	11	25	69.4	5	36	11	25	69.4	5						14	7	7	50.0	3	50
51	Harvard Medical School.—R	99	94	5	5.1	25	84	81	3	3.6	22	15	13	2	13.3	11	43	43	0	0.	9	51
52	Tufts College Medical School.—R	102	92	10	9.8	10	96	87	9	9.4	8	6	5	1	16.7	4	61	56	5	8.2	8	52
	MICHIGAN																					
53	Detroit College of Medicine.—R	45	44	1	2.2	8	35	34	1	2.9	2	10	10	0	0.	7	34	33	1	2.9	2	53
54	Detroit Homeopathic College.—H	6	4	2	33.3	1	6	4	2	33.3	1						5	4	1	20.0	1	54
55	Univ. of Mich., Dept. of Med. and Surg.—R	101	95	6	5.9	16	80	79	1	1.2	11	21	16	5	23.8	11	67	67	0	0.	7	55
56	Univ. of Michigan, Homeopathic College.—H	21	21	0	0.	7	21	21	0	0.	7						15	15	0	0.	3	56
	MINNESOTA																					
57	Univ. of Minn., Coll. of Medicine and Surg.—R	65	60	5	7.7	9	50	46	4	8.0	1	15	14	1	6.7	7	30	27	3	10.0	5	57
58	Hamline University, Medical Department.—R	19	16	3	15.8	9	17	14	3	17.7	8	2	2	0	0.	2	1	1	0	0.	1	58
	MISSISSIPPI																					
59	Mississippi Medical College.—R	23	11	12	52.2	2	23	11	12	52.2	2						15	7	8	53.3	2	59
	MISSOURI																					
60	American Medical College.—E	8	4	4	50.0	4	6	4	2	33.3	2	2	0	2	100.0	2	5	4	1	20.0	2	60
61	Barnes Medical College.—R	90	62	28	31.1	18	77	55	22	28.6	17	13	7	6	46.2	8	60	45	15	25.0	13	61
62	Eclectic Medical University, Kansas City	10	6	4	40.0	4	9	6	3	33.3	4	1	0	1	100.0	1	8	6	2	25.0	3	62
63	Ensworth Medical College.—R	35	20	15	42.9	10	31	19	12	38.7	7	4	1	3	75.0	4	20	16	4	20.0	6	63
64	Kansas City Hahnemann Medical College.—H	29	23	6	20.7	8	28	23	5	17.9	7	1	0	1	100.0	1	19	19	0	0.	6	64
65	St. Louis University, School of Med.—R	109	104	5	4.6	14	106	103	3	2.8	13	3	1	2	66.7	2	90	90	0	0.	6	65
66	St. Louis College of Phys. and Surgs.—R	67	39	28	41.8	18	56	29	27	48.2	14	11	10	1	9.1	8	19	16	3	15.8	5	66
67	University Medical College, Kansas City.—R	67	55	12	17.9	14	56	49	7	12.5	8	11	6	5	45.5	9	51	47	4	7.8	7	67
68	Washington University, Medical Dept.—R	95	92	3	3.2	8	92	89	3	3.3	8	3	3	0	0.	3	88	85	3	3.4	8	68

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

Marginal Number	NAME OF COLLEGE	Graduates of All Years. Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Graduates of 1906-1910. Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Graduates of 1905 and Previous. Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Graduates of 1910. Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Marginal Number
	NEBRASKA																					
69	John A. Creighton Medical College.—R	53	52	1	1.9	8	50	49	1	2.0	8	3	3	0	0.	2	42	41	1	2.4	3	69
70	Lincoln Medical College.—E	15	14	1	6.7	4	15	14	1	6.7	4						12	12	0	0.	3	70
71	University of Nebraska, College of Med.—R	18	16	2	11.1	4	14	14	0	0.	1	4	2	2	50.0	3	14	14	0	0.	1	71
	NEW HAMPSHIRE																					
72	Dartmouth Medical School.—R	22	20	2	9.1	5	21	20	1	4.8	5	1	0	1	100.0	1	7	7	0	0.	2	72
	NEW YORK																					
73	Albany Medical College.—R	50	47	3	6.0	8	42	39	3	7.1	2	8	8	0	0.	6	26	23	3	11.5	1	73
74	Columbia Univ. Coll. of Phys. and Surgs.—R	116	115	1	0.9	20	100	99	1	1.0	16	16	16	0	0.	10	43	42	1	2.3	7	74
75	Cornell University Medical College.—R	76	76	0	0.	13	72	72	0	0.	9	4	4	0	0.	4	50	50	0	0.	3	75
76	Eclectic Medical College of City of N. Y.—E	12	8	4	33.3	2	12	8	4	33.3	2						10	6	4	40.0	2	76
77	Fordham University, School of Medicine.—R	2	2	0	0.	1	2	2	0	0.	1						2	2	0	0.	1	77
78	Long Island College Hospital.—R	80	69	11	13.7	8	76	65	11	14.5	4	4	4	0	0.	4	41	35	6	14.6	3	78
79	New York Homeopathic Med. Coll. and Hosp.—H	28	23	5	17.9	4	25	21	4	16.0	3	3	2	1	33.3	2	16	13	3	18.7	2	79
80	N. Y. Med. Coll. and Hospital for Women.—H	3	1	2	66.7	2	2	0	2	100.0	1	1	1	0	0.	1	2	0	2	100.0	1	80
81	Syracuse University, College of Medicine.—R	30	25	5	16.7	5	27	24	3	11.1	4	3	1	2	66.7	1	21	18	3	14.3	3	81
82	University and Bellevue Hospital Med. Coll.—R	84	79	5	6.0	14	77	75	2	2.6	8	7	4	3	42.9	7	43	42	1	2.3	4	82
83	University of Buffalo, Medical Dept.—R	48	42	6	12.5	9	40	37	3	7.5	3	8	5	3	37.5	7	25	22	3	12.0	1	83
	NORTH CAROLINA																					
84	Leonard School of Medicine.—R	48	23	25	52.1	12	45	22	23	51.1	11	3	1	2	66.7	3	28	16	12	42.9	6	84
85	North Carolina Medical College	18	14	4	22.2	6	18	14	4	22.2	6						13	10	3	23.1	3	85
	OHIO																					
86	Cleveland College of Phys. and Surgs.—R	23	22	1	4.4	3	20	20	0	0.	2	3	2	1	33.3	2	20	20	0	0.	2	86
87	Cleveland Homeo. Medical College.—H	18	13	5	27.8	8	9	8	1	11.1	5	9	5	4	44.4	4	5	4	1	20.0	2	87
88	Eclectic Medical College.—E	35	20	15	42.9	15	30	17	13	43.3	11	5	3	2	40.0	5	22	13	9	40.9	8	88
89	Ohio-Miami Medical College.—R	44	40	4	9.1	4	44	40	4	9.1	4						43	39	4	9.3	3	89
90	Pulte Medical College.—H	7	6	1	14.3	4	5	5	0	0.	3	2	1	1	50.0	1	5	5	0	0.	3	90
91	Starling-Ohio Medical College.—R	48	47	1	2.1	5	45	44	1	2.2	3	3	3	0	0.	3	42	42	0	0.	2	91
92	Toledo Medical College.—R	9	9	0	0.	1	9	9	0	0.	1						9	9	0	0.	1	92
93	Western Reserve University, Medical Dept.—R	28	27	1	3.6	6	26	26	0	0.	6	2	1	1	50.0	2	22	22	0	0.	2	93
	OREGON																					
94	Willamette University, Medical Dept.—R	12	10	2	16.7	3	11	10	1	9.1	3	1	0	1	100.0	1	4	4	0	0.	3	94
95	University of Oregon, Medical Dept.—R	21	17	4	19.0	3	21	17	4	19.0	3						12	10	2	16.7	2	95
	PENNSYLVANIA																					
96	Hahnemann Medical College and Hosp.—H	63	54	9	14.3	15	56	48	8	14.3	13	7	6	1	14.3	6	39	34	5	12.8	7	96
97	Jefferson Medical College.—R	174	166	8	4.6	33	149	145	4	2.7	31	25	21	4	16.0	13	105	105	0	0.	20	97
98	Medico-Chirurgical College of Philadelphia.—R	87	75	12	13.8	16	75	65	10	13.3	10	12	10	2	16.7	10	69	61	8	11.6	7	98
99	Temple University, Medical Dept.—R	35	32	3	8.6	1	35	32	3	8.6	1						35	32	3	8.6	1	99
100	University of Pennsylvania, Dept. of Medicine.—R	196	191	5	2.6	29	164	160	4	2.4	25	32	31	1	3.1	15	124	122	2	1.6	16	100
101	University of Pittsburgh, School of Med.—R	75	66	9	12.0	3	75	66	9	12.0	3						60	55	5	8.3	2	101
102	Woman's Med. Coll. of Pennsylvania.—R	41	38	3	7.3	14	37	34	3	8.1	13	4	4	0	0.	3	20	20	0	0.	5	102
	SOUTH CAROLINA																					
103	Med. Coll. of the State of South Carolina.—R	61	44	17	27.9	6	58	42	16	27.6	6	3	2	1	33.3	3	41	29	12	29.3	6	103
	TENNESSEE																					
104	College of Physicians and Surgs., Memphis.—R	21	14	7	33.3	6	21	14	7	33.3	6						15	11	4	26.7	5	104
105	Knoxville Medical College.—R	5	1	4	80.0	5	4	1	3	75.0	3	1	0	1	100.0	1	1	1	0	0.	1	105
106	Memphis Hospital Medical College.—R	135	93	42	31.1	13	118	82	36	30.5	10	17	11	6	35.3	9	99	73	26	26.3	8	106
107	Meharry Medical College.—R	103	59	44	42.7	17	99	57	42	42.4	17	4	2	2	50.0	4	65	41	24	36.9	15	107
108	Tennessee Medical College.—R	29	22	7	24.1	4	24	20	4	16.7	3	5	2	3	60.0	3	19	19	0	0.	2	108
109	Univ. of Nashville and Tennessee Med. Dept.—R	109	84	25	22.9	21	90	75	15	16.7	16	19	9	10	52.6	12	53	47	6	11.3	10	109
110	University of West Tennessee, Med. Dept.—R	9	4	5	55.6	5	9	4	5	55.6	5						7	3	4	57.1	5	110
111	Vanderbilt University, Medical Dept.—R	55	50	5	9.1	19	45	42	3	6.7	17	10	8	2	20.0	8	26	24	2	7.7	12	111
	TEXAS																					
112	Baylor University, College of Medicine.—R	11	10	1	9.1	3	9	9	0	0.	2	2	1	1	50.0	2	9	9	0	0.	2	112
113	Fort Worth University, Medical Dept.—R	21	21	0	0.	2	21	21	0	0.	2						21	21	0	0.	2	113
114	Southwestern University Medical College.—R	16	16	0	0.	3	16	16	0	0.	3						16	16	0	0.	3	114
115	University of Texas, Dept. of Medicine.—R	37	37	0	0.	3	36	36	0	0.	3	1	1	0	0.	1	32	32	0	0.	2	115
	VERMONT																					
116	University of Vermont, College of Med.—R	35	32	3	8.6	10	30	28	2	6.7	9	5	4	1	20.0	3	17	15	2	11.8	4	116
	VIRGINIA																					
117	Medical College of Virginia.—R	43	43	0	0.	10	39	39	0	0.	7	4	4	0	0.	4	33	33	0	0.	4	117
118	University of Virginia, Dept. of Med.—R	37	36	1	2.7	10	31	31	0	0.	9	6	5	1	16.7	4	19	19	0	0.	4	118
119	University College of Medicine.—R	32	24	8	25.0	11	31	23	8	25.8	10	1	1	0	0.	1	22	19	3	13.6	4	119
	WISCONSIN																					
120	Marquette University, Medical Dept.—R	61	48	13	21.3	6	56	43	13	23.2	5	5	5	0	0.	3	44	35	9	20.5	5	120
121	Wisconsin College of Physicians and Surgs.—R	7	7	0	0.	2	7	7	0	0.	2						4	4	0	0.	1	121
	CANADIAN																					
122	Laval University, Medical Dept	22	11	11	50.0	9	11	5	6	54.5	6	11	6	5	45.5	8	1	0	1	100.0	1	122
123	Manitoba Medical College	3	3	0	0.	2						3	3	0	0.	2						123
124	McGill University, Medical Faculty	28	28	0	0.	16	19	19	0	0.	12	9	9	0	0.	9	7	7	0	0.	5	124
125	Queen's University, Medical Faculty	20	18	2	10.0	12	16	15	1	6.3	11	4	3	1	25.0	3	2	2	0	0.	2	125
126	University of Toronto, Faculty of Medicine	31	27	4	12.9	11	18	17	1	5.6	9	13	10	3	23.1	8	1	1	0	0.	1	126
127	Western University, Medical Dept	8	7	1	12.5	5	6	6	0	0.	5	2	1	1	50.0	1	3	3	0	0.	2	127
128	Foreign Colleges	108	70	38	35.2	24	30	19	11	36.7	12	78	51	27	34.6	21	3	3	0	0.	2	128
129	Miscellaneous Medical Colleges	478	311	167	34.9	45	247	172	75	30.4	40	231	139	92	40.0	39	84	70	14	16.7	17	129
130	Undergraduates	353	192	161	45.6	4																130
	Totals	7004	5712	1292	18.4	....	5678	4830	848	14.9	....	973	690	283	29.1	....	3076	3544	432	10.5	....	

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[*For other information see second page following reading matter*]

SATURDAY, MAY 27, 1911

VALUE OF STATE BOARD STATISTICS

For the eighth consecutive year we present this week tabulated statistics based on the examinations conducted by state medical examining and licensing boards. With the exception of one or two of the minor sectarian boards, our returns for the year 1910, published in this issue, are complete; in fact we have not heretofore had such ready and complete cooperation on the part of the state licensing boards. This is in marked contrast with the conditions in 1903, when reports from a large number of boards could not be obtained for the simple reason that no records whatever were kept by them.

As the first essential of any progressive business enterprise is a system of records by which it may be known just how much is being accomplished each day as compared with the same day of the previous week, month or year, so in the effort to improve the training of physicians and to safeguard better the public against incompetence, the collection and publication of accurate statistics based on the examinations of state licensing boards are extremely important and helpful.

These statistics, which appear on pages 1558 to 1575, are worthy of careful study. As will be noted (Table A), they show for each state the medical college at which each applicant obtained his degree, the total number of applicants examined, the number registered, the number rejected and the percentage rejected. They show the number of non-graduates examined and (Table K) the number registered under exemption clauses or through interstate reciprocity. They also allow of comparisons of the results in any one state with the results in other states. Occasionally it is seen that a state board registers every applicant who applies; and again a board may appear to be very lenient with graduates of medical schools located in its own state (Table F), although the graduates of those schools may receive high failure percentages elsewhere.

For each medical college, these statistics show (Tables A and B) in what states its graduates appeared for examination, the number who passed and failed in each state, the total examined in all states, the number who passed, the number who failed and the percentage of failures. They permit a comparative study of medical colleges and furnish an important side-light on any investigation of medical colleges which may be undertaken.

These statistics also show the number of candidates coming from Canadian and other foreign medical colleges. In short, they give an accurate record of the number and source of those who are entering the practice of medicine each year in this country—information which was not available prior to 1904 when THE JOURNAL began the publication of these statistics.

Without the data published this week, it could not be known that 7,352 physicians were licensed in this country during 1910, and that this included 5,712 who were registered by examination, 138 who were registered under the various exemption clauses and 1,502, mostly old practitioners, who were registered under the provision for reciprocity.

But these statistics have been much more than a mere numerical record of the physicians examined and licensed. They have exerted and are exerting a tremendous influence toward the betterment of conditions underlying the education and the licensing of physicians. Probably no one has recognized the value of these statistics more than have the state licensing boards themselves. As a result, in many states splendid systems of record-keeping are now to be found where formerly, in several states at least, no records whatever were kept, and in many others the systems were far from perfect. Again, there has been a marked progress in the methods of conducting examinations and in the character of those examinations.

The publication of these statistics showing the failures of college graduates at the state license examinations has also stimulated the colleges to make improvements in their equipment, to secure better teachers and to adopt better methods of teaching.

It should be stated that from the official data in the possession of the Council on Medical Education, which has in charge the collection and tabulation of these statistics, a check is now provided for every report whereby duplications are avoided, errors are corrected and the statistics are rendered accurate and reliable. We again express our acknowledgments not only to the officers of the state licensing boards whose carefully prepared reports have made the publication of these statistics possible, but also to the medical colleges whose earnest cooperation in sending complete lists of their graduates has aided in making these statistics accurate.

The colleges and the state boards have reason to feel gratified, therefore, not only because of the direct aid which these statistics are capable of furnishing, but also because the publication of this valuable information, made possible by their carefully prepared reports, is doing much to unify and to better the conditions underlying the training and the licensing of physicians in this country.

PROTECTIVE INOCULATION AGAINST DYSENTERY

In this country bacillary dysentery occurs under two special conditions, namely, as a variety of summer diarrhea in infants and as an institutional disease, especially in hospitals for the insane, the so-called institutional dysentery. In both cases there is need of effective prevention. Protective inoculation does not appear to have given satisfactory results heretofore. Inoculation or active immunization against bacillary dysentery was introduced by Shiga[1] in 1898; he inoculated himself, but concluded that the method would not be generally applicable because of the rather severe local and general reactions, and this conclusion seems to coincide with those reached by others. Shiga, as well as Dopter and others, consequently tried a mixed, active and passive, immunization, using heat-killed bacilli in suspension and mixed with specific immune serum. With this method Shiga (1898-1900) inoculated about 10,000 men in certain parts of Japan where dysentery was epidemic, and while he did not seem to secure any evident protective effect, yet the mortality, which had been 20 per cent. to 30 per cent., was reduced to nearly zero.

Unfortunately the dosage used by Shiga and others in their injections of vaccines and serum is rather indefinite, the bacillary suspension not being standardized, and for this and other reasons, protective inoculation against bacillary dysentery would seem to merit further study by newer and more discriminating methods. It having been found in previous studies[2] that the commonest cause of infantile dysentery as seen in the outpatient department of the Infants' Hospital in Boston is the dysentery bacillus (Flexner type), Lucas and Amos[3] last summer inoculated a series of children living under conditions in which they were likely to acquire infection with dysentery bacilli. They inoculated ninety-five children, all under two years of age, giving one or two injections of 50,000,000 heat-killed bacilli with one cubic centimeter of antidysenteric serum. The exact nature and virtues of this serum they do not state. In no case did the injection do harm, the reactions being mostly mild and brief. Of the ninety-five children, two died of acute infectious diarrhea within a few weeks after the inoculation, while of ninety-seven children observed as controls at the same time, three died of the same cause. The results consequently simply indicate that the inoculation probably did no harm; much more work must be done before we can learn definitely whether the method used by the Boston workers is an effective method for preventing infection with dysentery bacilli in young children. The method might be expected to be effective — unless perchance the dose given of killed bacilli is too large—and possibly the fact that in six of the inoculated children the stools were found to harbor dysentery bacilli while no symptoms of any active infection developed should be regarded as evidence of active protection. Further evidence is needed to establish definite conclusions.

In the case of institutional dysentery it is perhaps easier to obtain conditions that are more favorable for securing decisive results, as shown by the recent work of Dick,[4] who found that the dysentery in the insane asylum and poorhouse of Cook County (Chicago), Illinois, which as a rule flares up each summer, is of bacillary nature, the Shiga bacillus predominating. Apparently the transmission and spread may be attributed to contact and transfer by flies, the infection being maintained from season to season, probably by carriers. On the basis of the results of animal experiments Dick prepared a vaccine of standardized suspension of twenty-four-hour growths of different strains of bacilli, sterilized by heating for an hour and a half at 60 C. At first two doses were given, the first being 10,000,000 bacilli and the second, one week later, 15,000,000. It should be noted that in these experiments comparatively small doses were used. The patients in certain wards were divided so that sixty-two received the injections while the other sixty-two served as controls. Of the latter, four developed dysentery, while of the inoculated, only one developed a dysenteric attack; this attack began on the second day and ran its course in forty-eight hours. There were in some of these cases rather severe local reactions, especially after the second injection, and there occurred a marked rise in specific opsonins and other antibodies. In the second series only one dose of 15,000,000 bacilli was given. This series comprised seventy cases in all; in the control cases three developed dysentery while of the inoculated all remained free. Incidentally it may be noted that Dick also obtained indications that the dysenteric vaccine may be of curative value and that he found the opsonic index to be of greater aid in reaching a diagnosis than the agglutination test. In view of these results it would seem advisable to practice inoculation according to Dick's plan in order to prevent dysentery, especially in institutions in which the opportunities are so favorable for contact infection. It would seem to be indicated also that in the case of children new experiments should be made with small doses.

1. See his article in Modern Medicine, 1907, ii, 781.
2. Lucas, W. P., Fitzgerald, J. G., and Schorer, E. H.: Methods of Serum Diagnosis in Bacillary Dysentery (Infectious Diarrhea) in Infants, THE JOURNAL A. M. A., Feb. 5, 1910, p. 441.
3. Jour. Exper. Med., 1911, xiii, 486.

THE OPIUM PROBLEM, ORIENTAL AND OCCIDENTAL

The announcement by President Taft of the names of the American delegates to the approaching International Opium Conference to be held at the Hague calls attention once more to the opium problem. When the International Opium Conference met at Shanghai in 1909, the American Bishop Brent of the Philippine Islands was made the presiding officer, and Americans were prominent in its organization. After the close of the meeting Dr. Hamilton Wright of Maine, who had been active in its proceedings, was commissioned by our Sec-

4. Jour. Infect. Dis., 1911, viii, 386.

retary of State, Mr. Knox, to gather materials for the better knowledge of the situation with respect to the opium and other habit-forming drugs. His investigations have brought to light rather startling facts. The International Opium Conference was originally arranged for in order to prevent the exploitation of the Oriental peoples, and especially to protect the Chinese and the Filipinos from those who are willing to make money out of them by the sale of habit-forming drugs regardless of their evil effects. There is no doubt that the meetings will accomplish much good for these purposes, but just at present the investigations for which they were the incentive, have produced quite another and no less interesting result.

Dr. Wright has found that we in the United States are consuming as large an amount of habit-forming drugs per capita as is consumed in the Chinese Empire. Our consumption of opium is nearly 500,000 pounds, while it is calculated that less than one-seventh that amount would surely suffice for all the medical needs of the people of this country. Besides it is alleged that we are using nearly 200,000 ounces of cocain, although less than one-twelfth of that amount should supply every legitimate medical need. While we are deeply intent on saving the Orientals from exploitation by greedy and conscienceless Occidentals, let us not forget that we have the same problem at home. It has developed within a comparatively short time. It is probable that our overindulgence in opium is at the present time actually doing more harm than the same habit is doing in China, where, as pointed out by Dr. Archdall Reid some time ago, the people are growing accustomed to it and are not so much injured by it as they were at the beginning.

Opium and many other toxic substances seem to follow the same rule as the infectious diseases. When a race has been exposed to the action of such harmful agents for some time, it becomes more or less immune to their effect. This immunity is acquired through the gradual elimination of those whose characters are so weak that they are unable to resist the craving. This is illustrated very well by the fact that the nations that have been longest subjected to the temptations and the dangers of alcoholic liquors are those which now suffer least from them, while nations newly exposed, such as savages, suffer as severely from them as they do from the infectious diseases when newly introduced. This acquired immunity is very costly, however, and is not the ideal mode of protection. It would be much better if we could by moral means lessen the dangers. While we are planning to apply these means to the East, we must remember that charity begins at home and secure their application as far as possible in our own country. For this the first important step is knowledge of conditions as they actually are and that seems to have been brought to us by the recent investigation.

THE PLAGUE

The great epidemic of plague which has been sweeping through a number of the provinces of China has developed a rather curious situation, referred to in this week's letter from our Manila correspondent, which does not augur well for the permanent suppression of the plague in that country, or for the early effective development of a correct public attitude toward epidemic diseases or public sanitary measures.

This epidemic originated in the north, in that part of Manchuria over which Russia and Japan have control. It seems that both of these countries, having in view chiefly commercial and territorial advantage, did not take sufficient precautions to prevent the spread of an outbreak in that section along the lines of their railroads, and last fall the annual migration of coolies to the south carried the plague with it. Thus the great epidemic started.

It is charged that both Russia and Japan should have taken more stringent precautions against allowing this spread of the disease to occur. Japan, by applying her experience in the sanitation of large bodies of troops in the Russo-Japanese War and her recognized efficiency in sanitary matters, should have been able to check the situation in its incipiency. Both of these nations, it would seem, devoted more energy to developing their strategic and military power in the north than to subduing the epidemic, with the result that the plague gained a strong foothold in China.

The Chinese government, however, in pursuance of its recent policy of adoption of western modern methods in government and in all that pertains thereto, on the outbreak of the plague called together a plague commission, similar, perhaps, to other medical commissions of recent times, composed of representatives of the principal governments of the world, for the purpose of studying the plague situation and devising means for its control. Two representatives of the United States government from the medical service in Manila are now in China with a well-equipped laboratory and are studying the plague situation. Already results in its suppression have been accomplished in communities where proper measures could be instituted and carried out. The Chinese government has liberally financed the commission and seems to be in earnest in accomplishing something in the way of eradicating the plague from her dominions.

The attitude of the people in some of the provinces toward the plague and other epidemics—curious enough in Western eyes—is to be reckoned with if wide-spread results in the control of plague and other epidemics are to be attained. Our correspondent relates a conversation with a Chinese acquaintance. In reply to a representation of the necessity of acting quickly in case the disease should appear in the community and of suppressing it at once, the native said that the spread of the

plague would be a good thing since it would give better opportunity for the people who remained. He believed that epidemics were necessary from time to time, as otherwise the country would be largely overpopulated, rendering subsistence almost impossible. Our correspondent cites another instance in which the people of a province even rejoiced because a famine had resulted in the death of thousands of people. They pointed to the fact that the province was now prosperous and happy; that the people had plenty of work and plenty to eat.

Though China as a whole is not overpopulated, many provinces under present methods of cultivation of the soil are subject to famine at almost any time and, with the rapid multiplication of the population in the fat years, much of the country might speedily be populated beyond the subsistence line. We of the West cannot learn to recognize the plague as a blessing; but we must recognize that the hard conditions of existence perpetually on the brink of famine complicate immensely the problem of dealing with epidemics.

TO SAVE THE BABIES

The death-rate among infants and young children has been one of the crying disgraces of civilization. Herod's slaughter of the innocents, the story of which has served to horrify the world for twenty centuries, merely hastened the death of many of these babies, as probably the greater part of those whom his ruthless order condemned would have died within a few years from infantile ailments and zymotic diseases. Through the middle ages and up to the present day, the death-rate of infants has had an unknown, but undoubtedly an enormous influence in keeping down the average, while the infant mortality among savages and barbarous nations is too dreadful to contemplate. It has remained for the present generation to realize that "race suicide" as a national peril is not to be compared to "child murder" by removable social and economic causes.

One of the most important problems confronting us is that of child conservation. A movement for the salvation of the child is of far greater importance than the efforts to save our forests, rivers and mineral deposits from spoliation. This is so evident that it is necessary only to demonstrate the facts to secure instant public response. Learning from previous efforts that public education and the arousing of popular interest must precede all attempts to improve conditions, those behind this most important crusade have wisely inaugurated a system of public exhibits in the larger cities.

The Child Welfare Exhibit held in New York was open to the public for a month and was visited by a quarter of a million people, an average of 8,000 per day. The second Child Welfare Exhibit, just held in Chicago, was viewed, during the first ten days in which it was open, by over 265,000 people, or about 26,000 per day. This enormous attendance is attributed by the local papers to the energy of the Chicago managers and to the activity of school teachers and others in spreading the news of the exhibit throughout the entire city. Yet these methods would have been futile had it not been that the public was ready to take an interest in the subject. In no other way is it possible to account for the spontaneous outpouring of people of all classes.

An account of some of the more striking features of the exhibit appeared in THE JOURNAL last week. It is difficult, however, to convey an adequate idea of the graphic character of this exposition, while it is impossible for any description to do justice to the crowds of eager people who poured through the Coliseum which contained the exhibit. Mothers from the slums with babies in their arms and with numerous offspring trailing behind, wealthy women of well-known families, eager to acquire information, business men, workingmen, physicians, scientists, politicians, clergymen, trained nurses — all visited the exhibit and all came away impressed with the enormous and unpardonable waste of child life and with the crying need for better methods of prevention. It is impossible to overestimate the value of such educational exhibits. Steps should be taken to render such collections permanent for use in other cities, or at least to utilize some of the valuable material for further education. Since the one educational shortcoming of such an exposition—if the paradox may be pardoned—is that it is too vast and complex to be readily grasped and understood in all its parts, it would be of great value if single features could be placed on display so as to enforce a single lesson at a time. If these special exhibits were shown in much-frequented places, such as public libraries, the waiting-rooms of railway stations and the rest-rooms of department stores, they would be viewed by thousands who never enter a museum or exposition. The presentation of the Child Welfare Exhibit, admirable as it is in itself, should be regarded merely as a starting-point in the education of the public along these lines.

Current Comment

A PRELIMINARY EDUCATION IN PHYSICS, CHEMISTRY, BIOLOGY AND MODERN LANGUAGES

As a part of the education which should be preliminary to the study of medicine, courses in physics, chemistry, biology and modern languages have been especially urged during the last several years by the Council on Medical Education. The importance of the sciences named does not depend so much on the bare knowledge obtained from them as on the training the student receives. In the work in these sciences, and particularly in the laboratory work, the student, under able instructors, acquires the ability to think for himself; he develops the scientific spirit; he learns the use of the microscope and becomes acquainted with the methods and value of experimentation. A reading knowledge of French and German is an invaluable aid to the medical student since it furnishes access to all of the world's recent medical knowledge, a large portion of which

appears in the languages named. That is the minimum preliminary education which should be insisted on in this country, not because it is the minimum requirement in every other civilized nation, which is a fact, but because the student really needs that training in order to master the complex courses in the modern medical curriculum and to do his part in solving the intricate problems which now confront the medical world. In the medical course of to-day the ability of the student to think, to observe and to do research work is very essential. This was not so necessary twenty-five or thirty years ago. Experience has shown that the needed qualifications are best developed by thorough courses, under expert teachers, in physics, chemistry, biology and modern languages. These are the reasons for urging those courses as a part of the minimum requirement for admission to medical schools in this country.

NOSTRUM-PROMOTING AS SHORT-STORY MATERIAL

The character and schemes of the patent-medicine faker and the weaknesses of human nature which enable him to take advantage of the public make splendid material for the short-story writer. In a tale of this sort which appeared in the March *Red Book Magazine*, one of a pair of bunco men of the J. Rufus Wallingford type grew a beard, physician style, and acquired a medical vocabulary by reading up in second-hand medical books. Arriving in the town which was to be exploited, he hired the best suite at the hotel and gave out an interview to the local paper which informed the wondering community that "Hank Dusenberry's clay-hole up in the foothills is nearly as good as a diamond-mine. . . . After long and secret experimentation, Dr. Henry Hicks Hudson, the eminent eastern expert, who arrived here yesterday . . . has disclosed to the reporter of the *Weekly Independent* that the discovery of the clay marks one of the epochs in the progress of medical science, second in greatness perhaps only to Koch's discovery of the cholera bacillus. Dr. Hudson's name will rank with those of Lister and Pasteur." The modest scientist reluctantly admitted to the "representatives of the mighty press" that he had used the mud, "which we scientists call Antispasmodyne," with magical results in the most hopeless and stubborn cases of locomotor ataxia, rheumatism, lumbago and even Bright's disease. He also announced his intention of giving to the local merchants the entire lucrative trade of the immense sanitarium which he proposed to erect—on the very reasonable condition, as was soon evident, of their taking stock in the new enterprise. The distinguished scientist's business partner, meanwhile, was recruiting from the cheap lodging-houses of the nearest large city patients, who, by the time they arrived at the sanitarium, had been transformed into millionaires afflicted with sciatica, appendicitis, etc. The "suckers" bit; the stock was sold; but the fake patients struck for more money and made trouble which brought the story to a humorous close. It is worth reading. The magazines seem more willing to print such stories of late, even though there is a possibility that their advertising receipts may be affected. Probably this is because of the fact that the public is becoming interested in the exposures of nostrums and quackery.

MUD THERAPY

By an interesting coincidence, just after the preceding was written, there arrived in the mail a letter originally sent to a physician, reading, in part, as follows:

> The management of the ——— Moor Bath Co., of ———, desires to call the attention of the public at large, and especially those suffering from Rheumatism, Gout, Lumbago, Neuralgia, Kidney and Liver Diseases, Grippe, Nervous Exhaustion, Eczema and Skin Diseases of all kinds, and also those who need rest and quiet, to the cures and beneficial results attained through the use of Moor Baths, such as given by the ——— Moor Bath Co.
>
> We are aware of the fact that the Moor Baths have become famous on account of their pleasing results. We also know that thousands have been cured of Rheumatism and its kindred diseases by the use of Moor Baths after all else had failed them.
>
> The Moor Baths are reconstructive, dissolve and draw all impurities out of the body. Pure air, pure water, pure food and quiet life will do the rest. This natural combination of remedial agents as found at ——— cannot be duplicated elsewhere. ———, one of the foremost health resorts, as such, needs no introduction. Its pleasing climate, beautiful surroundings, its sparkling mineral waters and clean government are known the world over and make it an ideal spot for an institution of this kind.

By the time one has read thus far, one is convinced that there is nothing left to do but to pack up at once and go to the Moor Baths. Reading on, one finds the phrases "most desirable," "one of the grandest views imaginable," "most modern in the world, absolutely fireproof," etc. A remarkable parallel with the plot of the short story referred to in the preceding comment is found in the following paragraph:

> The original discovery of this Moor bed at ——— is due to a prominent doctor, for many years an assistant at the European Moor Baths, who pronounced the same to be of great medicinal value, a claim which has since then been fully substantiated by some of our foremost chemists by careful analyzation.

In making these quotations, of course, we do not intend to suggest that the Moor Baths are not all that they are said to be. By no means. They may be even more wonderful. We merely quote from this letter because it is interesting and instructive.

PROGRESSIVE MEDICAL LEGISLATION

During the session of legislative activity now nearly over, much has been accomplished for medical education. Not only has legislation establishing higher standards of preliminary education and providing increased appropriations for medical education been adopted, but also legislation tending to lower educational standards, in at least one instance, has been defeated. In Utah and in North Dakota amendments to the practice act have just been secured, providing respectively for one and two years in a college of liberal arts, or its equivalent, in addition to a standard four-year high-school education as their minimum requirement of preliminary education, making nine states which now have adopted these higher standards. In Minnesota, on the other hand, legislation which would have lowered the excellent standard fixed by the licensing board of that state encountered signal defeat. Reports also have been received of the defeat of other vicious legislation such

as bills providing for separate boards and special standards for osteopaths, chiropractics and optometrists. These results are most encouraging and are a sure indication that more reasonable standards of medical education are to be generally adopted in the near future. The facts that the legislatures of Alabama and Nebraska each appropriated $100,000 for the development of their state university medical schools and that North Carolina and Oregon appropriated respectively $40,000 and $30,000 for a similar purpose, constitute an assurance that our state legislatures are going to assume a larger share of the responsibility of providing a suitable training for those who are to care for the sick and injured.

THE EDUCATIONAL FUNCTION OF HOSPITALS

Many of those who are in control of our large hospitals do not seem to have realized that, to do the most good in any community, a hospital should exercise a dual function. First, it should take the best possible care of the patients who come under its roof and, second, it should act as an educational agency, by which doctors, students, interns and research workers are made more familiar with the nature and symptoms of diseases, the methods of diagnosis and the means of preventing or curing them; by which nurses are educated in the latest routine care of the sick, and by which the patients themselves and indirectly the general public are led to recognize the importance of dieting, rest and quiet, and the value of aseptic or antiseptic methods and the other practices of the hospital routine. The patient undoubtedly receives a better treatment in a hospital where the attending staff is composed of physicians acquainted with the latest and best methods of diagnosis and treatment; and this is more apt to be the case in the hospital in which teaching and research are being done. The same is true to a certain extent where interns and nurses are in attendance. It is doubtless a fact that the two chief functions of a hospital are interdependent, and that each is best performed only where both functions are fulfilled. It is to be hoped, therefore, that a careful reading of the important article on this subject in this week's issue, by Dr. James B. Herrick, will convince those who are in control of our large hospitals of the increased usefulness which those institutions can render the community if they are fully exercising their educational function.

S. WEIR MITCHELL

There are comparatively few literary records comparable to that of Dr. S. Weir Mitchell, who, now in his eighty-third year, has just published his latest novel, "John Sherwood, Ironmaster," which shows no falling off in his power of writing and of holding his reader. When it is remembered that he has been easily among the first of American neurologists in a specialty which is more comprehensive perhaps than any other and requires immense professional industry of the man who maintains himself in it as Dr. Mitchell has done, his literary ability and activity are notable phenomena. He is probably one of the oldest, if not the oldest, of living productive literary men; and this fact, to say nothing of the professional activities he may still keep up, makes his latest achievement the more remarkable. Everything he does is done well.

A GOOD DOCTOR

Statements are commonly heard that the function of a medical school is "to make good doctors," or to produce "well-trained practitioners"; or other general expressions have been used which have still left it with the hearer to form his own conception of what was meant by the expressions used. The article by Dr. E. P. Lyon which appears in this issue of THE JOURNAL, however, sets forth so clearly and logically the essential qualifications of "the good physician," as to leave the reader no possible ground for misunderstanding. Dr. Lyon shows that the "good physician" must have accurate powers of observation, must "mix his seeing with brains," must know how to conduct experiments, must be able to form accurate conclusions and must be a man of character. The article explains also what the medical school must have in the way of courses, equipment and teachers in order to develop these qualities in its students. Furthermore, this paper clearly demonstrates why higher entrance standards are needed; why it is essential for a college to have full-time, expert teachers; why well-equipped laboratories should be provided and why some research is valuable in the undergraduate course of the medical school. In short, the article shows that the medical course to-day should be in accord with the abundance of known facts in modern medicine.

Medical News

CALIFORNIA

Change in Meeting Place.—The Los Angeles County Medical Association now meets in the cafeteria rooms on the fourth floor of the Hamburger Building.

Personal.—Dr. and Mrs. J. Edson Kelsey and family, Berkeley, sailed for the Orient, May 24.—Dr. Ernest B. Hoag, for two years medical director of the Berkeley schools, has resigned, to take effect at the end of the school year.——Dr. Charles Hamilton English, San Francisco, who was stricken with cerebral hemorrhage, May 8, is reported to be improving.

ILLINOIS

Personal.—Dr. Henry T. Godfrey, Galena, has announced his approaching retirement from practice.——Dr. George H. Hunt, Paris, was painfully injured in an automobile accident in Chicago, May 18.

Result of Intern Examination.—Of the 145 who took the recent examination for positions as interns in the Cook County Institutions, a woman graduate of Rush Medical College is said to have obtained the highest standing, 93.40 per cent. Of the 40 who received appointments, 15 were graduates of Northwestern University Medical School, 10 each of Rush Medical College and the College of Physicians and Surgeons, 4 of Loyola University, and 1 was an aluminus of the Chicago College of Medicine.

State Society Election.—At the sixty-first annual meeting of the Illinois State Medical Society, in Aurora, May 16-18, these officers were elected: president, Dr. L. H. A. Nickerson, Quincy; vice-presidents, Drs. J. W. MacDonald, Aurora, and J. E. Miller, Danville; secretary, Dr. Edmund W. Weis, Ottawa (reelected); treasurer, Dr. Everett J. Brown, Decatur (reelected); councilors, Drs. Jeremiah H. Stealy, Freeport; James W. Pettit, Ottawa, and Elmer B. Cooley, Danville; delegates to the American Medical Association, Dr. Alexander H. Fer-

guson and Hugh T. Patrick, Chicago, and Everett J. Brown, Decatur, and alternates, Drs. Clifford U. Collins, Peoria; Samuel C. Stremmel, Macomb, and George S. Rainey, Salem. Springfield was selected as the place of meeting for 1912, and a resolution was adopted asking the state legislature to make a fixed annual appropriation of $100,000 for the maintenance of the medical department of the state university.

Chicago

Small-Pox in Hospital.—Three cases of small-pox, in an intern, a nurse and a patient, respectively, have been discovered in St. Bernard's Hospital, and the patients have been removed to the Isolation Hospital. All the inmates, physicians, nurses and help at the hospital have been vaccinated.

Annual Meeting of Pathologic Society.—The annual meeting of the Chicago Pathologic Society was held May 8 and the following officers were elected: president, Dr. Alice Hamilton; vice-president, Dr. Edward C. Rosenow; secretary, Dr. George H. Weaver (reelected); treasurer, Dr. Alexander A. Goldsmith; censors, Drs. Emil Ries, H. Gideon Wells and Lorenzo N. Grosvenor, and publication committee, Drs. Ludvig Hektoen, F. Robert Zeit and H. Gideon Wells.

Personal.—Dr. William A. Evans, health commissioner, retired May 20 and Dr. Gottfried Koehler, assistant commissioner of health, has been placed in temporary charge of the health department.——Dr. Joseph E. Raycroft has accepted the professorship of physical education at Princeton University.——Dr. B. Brindley Eads was seriously injured in a collision between his automobile and a street car, May 18.——Dr. B. Barker Beeson sailed from New York for London, May 20.

INDIANA

District Meeting.—The Ninth Councilor District Society held its annual meeting in Kokomo, May 19. The following officers were elected: president, Dr. Edgar Cox, Kokomo; vice-presidents, Drs. Wm. J. Fernald, Frankfort, and Kenton C. Hershey, Carmel; secretary and treasurer, Dr. Paul J. Barcus, Crawfordsville, and assistant secretary, Dr. George T. Williams, Crawfordsville.

Personal.—Dr. Geo. W. Miller, Covington, has been admitted to the practice of law in the state of Indiana. He does not intend to give up the practice of medicine at present, but eventually intends to take up legal medicine as a specialty.——Dr. William H. Johnson, a member of the city council of Indianapolis, who has been seriously ill at his home, is reported to be improving.——Dr. Eric A. Crull has resigned as president of the Fort Wayne Antituberculosis Society.

Hospital News.—A new free colored hospital will be opened in Indianapolis, June 1. At the eighth annual convention of the State Sisters of Charity (colored), which met in Indianapolis, May 15 and 16, $500 was subscribed toward the hospital fund.——A contract for the new addition to the Methodist Episcopal Hospital, Indianapolis, has been let for $67,676. The total cost will approximate $125,000. During the past week more than $80,000 has been subscribed in Indianapolis for this institution.

IOWA

Medical Women Elect Officers.—At the annual meeting of the Iowa Society of Medical Women in Des Moines, May 17, the following officers were elected: president, Dr. Jennie G. Ghrist, Ames; vice-presidents, Drs. Georgia Stewart, Des Moines, and Jessie B. Hudson, Iowa City; secretary, Dr. Lena A. Beach, Cherokee, and treasurer, Dr. Grace Jerger, Waterloo.

Personal.—Dr. George E. Decker, Davenport, has resigned as a member of the State Board of Health, giving as his reason "the inadequate appropriations made by the state for the work of the board" and "the ill-advised and carelessly drawn, if not absolutely vicious, health legislation of the last two general assemblies."——Dr. Albert C. Moerke, Burlington, president of the State Board of Health, has resigned, giving as his reason the failure of the recent legislature to provide a sufficient appropriation for carrying on the work of the board.——Dr. Gardner A. Huntoon, Des Moines, has been appointed a member of the State Board of Health, vice Dr. Alfred P. Hanchett, Council Bluffs, term expired.

KANSAS

State Society Meeting.—The forty-ninth annual meeting of the Kansas Medical Society was held in Kansas City, May 3-5. The following officers were elected: president, Dr. John T. Axtell, Newton; vice-presidents, Drs. George M. Gray, Kansas City; Horace G. Welch, Hutchinson, and Anderson Lincoln, Kansas City; secretary, Dr. Charles S. Huffman, Columbus, and treasurer, Dr. Lewis H. Munn, Topeka.

Personal.—Dr. Andrew H. Fabrique, Wichita, was made a life member of the Sedgwick County Medical Society at its meeting, April 11.——Dr. Francis H. Slack of the University of Kansas, Lawrence, formerly director of the Boston Bacteriologic Laboratory, has been offered the secretaryship of the Boston Board of Health.——Dr. Louis O. Nordstrom, Salina, has been elected president, and Dr. J. Albert Fulton, Kansas City, secretary and treasurer of the Alumni Association of the Medical Department of the Kansas State University.

MARYLAND

Personal.—Dr. Luther H. Keller, Hagerstown, has been elected vice-president of the Washington County Confederate Memorial Association.——Dr. Thomas C. Bussey, Texas, is reported to be seriously ill as the result of cerebral hemorrhage.——Dr. Lewis K. Woodward has been elected a member of the common council and treasurer of Westminster.——Dr. Frederick W. Steiner has been elected a member of the Board of Health of Havre-de-Grace.

Baltimore

Scotch Gynecologists in Baltimore.—Dr. Munro Kerr of the University of Glasgow was the guest of Dr. Howard A. Kelly last week. He was entertained by Dr. Kelly at a dinner at the Maryland Club.

Commencements.—The commencement exercises of the various medical colleges in Baltimore will be held as follows: University of Maryland and Baltimore Medical College, June 1; College of Physicians and Surgeons, June 6, and Johns Hopkins University, June 13.

Bust to be Unveiled.—At the commencement exercises of the University of Maryland, a bronze bust of the late Dr. James Harris, founder of the department of dentistry, and given to the university by the senior dental class, will be unveiled. The presentation will be made by Prof. John C. Hemmeter and a brief address will follow by Professor Heatwole.

Personal.—Dr. Robert L. Mitchell is reported to be ill with scarlet fever at Sydenham Hospital.——Dr. Delano Fitzgerald has returned home after six months in Egypt.——Dr. Duncan McCalman was thrown from his automobile recently, fracturing his clavicle.——Dr. John C. Hemmeter, has been detailed to do original investigation for the government at the marine biologic laboratory, Wood's Hole, Mass.

MASSACHUSETTS

Sanitarian Appointed Professor.—George Chandler Whipple, New York City, of wide repute as a lecturer and author on technical subjects, has accepted an appointment as professor of sanitary engineering at Harvard University and will begin his duties with the coming academic year.

Personal.—Dr. Herbert G. Leslie has been elected school physician of Amesbury.——Dr. Edward J. Brearton has been appointed assistant examining physician in the department of public works of Dorchester.——Dr. William J. Teahan has been appointed medical examiner for Holyoke, vice Dr. Frank Holyoke, retired.

State Society to Meet.—The Massachusetts Medical Society will hold its one hundred and thirtieth anniversary meeting June 13-14, under the presidency of Dr. George B. Shattuck, Boston, at Harvard Medical School. The Shattuck lecture will be given on the evening of June 13 in the Boston Medical Library by Dr. Richard C. Cabot, Boston, on "Observations Regarding the Relative Frequency of the Different Diseases Prevalent in Boston and Vicinity."

MISSOURI

State Medical Association Meeting.—At the annual meeting of the Missouri State Medical Association, held in Kansas City, May 16-18, Sedalia was selected as the next place of meeting. The following officers were elected: president, Dr. Robert H. Goodier, Hannibal; vice-presidents, Dr. Wilson J. Ferguson, Sedalia; J. Henry Amerland, St. Louis; Charles H. Lester, Kansas City; George W. Vinyard, Jackson, and John M. Stone, Laredo; secretary, Dr. Edward J. Goodwin, St. Louis (reelected), and treasurer, Dr. J. Franklin Welch, Salisbury.

MONTANA

Tuberculosis Exhibit Opens.—The exposition under the auspices of the National Association for the Study and Prevention of Tuberculosis opened in Butte, May 9. Dr. Isadore D. Freund presided at the opening meeting.

Red Cross Society Formed.—The Montana State Board of the American Red Cross has been organized with Governor Norris as president. The board will serve as a standing committee on finance for the Red Cross and will receive contributions for relief purposes.

County Society Meetings.—The annual meeting of the Lewis and Clark County Medical Association was held in Helena, April 27. Dr. Maria M. Dean was elected president; Dr. Sidney A. Cooney, vice-president; Dr. Barnard V. McCabe, secretary; Dr. George W. King, treasurer, and Dr. Ben C. Brooke, delegate to the state association, all of Helena.——Fergus County Medical Association, at its annual meeting held in Lewistown, elected the following officers: president, Dr. Charles C. Wallin, Lewistown; vice-presidents, Drs. C. E. Hagen, Hedgesville, and Arthur E. Myrick, Stanford; secretary and treasurer, Dr. John T. Foley, Lewistown; delegates to the state association, Drs. Abraham Poska, Philbrook, and Willard A. Long, Lewistown, and alternates, Drs. C. E. Hagen, Hedgesville, and S. Sheridan Owen, Moore.

NEW JERSEY

Readjustment of Medical Staff.—An entire change in the classification of assistant physicians at the New Jersey State Hospital for the Insane, Morris Plains, is to be made to go into effect June 1. The medical staff was formerly composed of the medical director and a staff known as first to sixth assistant physicians. Under the new classification the medical director will be chief of staff as before, Dr. Britten B. Evans, Morris Plains. Drs. E. Moore Fisher, Morris Plains, and Louis K. Henschel, N. Y. City, will be known as senior assistants and the remaining three members of the staff, Drs. George A. Anderson, Marcus A. Curry and George B. Hampton, are to be known as junior assistants. Three more junior assistants are required on the medical staff and a competitive examination is to be held June 1 to determine the names to be submitted to the board of managers at its next meeting.

NEW YORK

Tuberculosis Commission Bill.—The assembly has passed the Goodwin Bill creating a commission to consist of three members to be appointed by the governor of the state, the State Commissioner of Health, a physician, a state senator and three assemblymen, to investigate generally the prevalence of tuberculosis in the state with special reference to methods of prevention.

Cancer Hospital Assured.—Governor Dix has signed the bill appropriating $65,000 to establish in Buffalo a hospital to investigate the cause, nature, treatment, prevention and cure of cancer and allied diseases. The management is to be by a board of seven trustees, including the state commissioner of health, Drs. Roswell Park, Charles Cary and William H. Gratwick, Buffalo; Frederick C. Stevens, Attica; John G. Milburn and Charles S. Fairchilds, New York City.

Personal.—Dr. Elbert M. Somers of the St. Lawrence State Hospital, Ogdensburg, has been appointed by the State Lunacy Commission as medical inspector for the commission to succeed Dr. Robert Doran who was recently appointed superintendent of the Long Island State Hospital.——Dr. Julius A. Klaks, Buffalo, has been elected health officer of Depew.——Dr. Nathan William Soble, Rochester, chairman of the tuberculosis committee of the public health association of Rochester, has been elected vice-president.

Urge Further Antituberculosis War.—Joseph H. Choate in a letter to the State Charities Aid Association declares that the "no uncared for tuberculosis in 1915" movement will be accomplished if the present rate of progress is maintained. The number of county hospitals authorized to do this work has increased during the past year from eight to sixteen, of dispensaries from fifteen to twenty-five, of visiting nurses from thirty-two to thirty-nine and of localities providing special relief from eight to fifteen. The letter has been sent to 1,500 officers of antituberculosis committees and calls on them to prosecute the work with vigor in the assurance of success in view of the progress already made.

New York City

Sanitary Object Lessons.—A department of public health has been established in connection with the American Museum of Natural History. The formal inauguration of this new feature of public education took place, May 22.

For Conservation of Vision.—The American Association for the Conservation of Vision has received a certificate of incorporation from the Supreme Court. This association proposes to investigate all the conditions and causes which result in blindness and impaired vision, the relation of impaired vision to general health and the means of prevention of blindness.

Personal.—Dr. and Mrs. Leonard Weber sailed for Europe, May 13.——Dr. Justin Herold was operated on, May 5, and is progressing satisfactorily.——Dr. Minas S. Gregory fell down-stairs in Bellevue Hospital on May 16, injuring his spine and breaking two ribs.——Dr. Edward Quintard has received a bequest of $5,000 under the will of the late John Henry Flagg in recognition of his "skilful and untiring services" to the deceased.——Dr. Aurelio A. Dubari has returned from Europe.

NORTH CAROLINA

News Notes of Hospitals.—An anonymous donor has presented Rex Hospital, Raleigh, with an *x*-ray outfit valued at $1,500.——The new City Hospital at Goldsboro is nearly completed.——Drs. John L., Benjamin F. and Robert C. McMillan have opened the McMillan Hospital at Red Springs.——Dr. Frank T. Merriwether, Asheville, tendered the members of the Buncombe County Medical Society a reception at the opening of the new operating rooms recently added to the Merriwether Hospital.

Health Officers Appointed.—Dr. James P. Battle, Nashville, has been elected health officer and quarantine officer of Nash County.——Dr. John Bynum, Winston-Salem, has been elected superintendent of health of Forsyth County.——Dr. Edwin M. Brown, Washington, has succeeded Dr. Plummer A. Nicholson as superintendent of Beaufort County Board of Health.——Dr. Marvin L. Smoot, Salisbury, has been elected superintendent of health and quarantine for Rowan County.——Dr. Henry D. Stewart, Monroe, has been reelected superintendent of health of Union County.——Dr. R. Morrison King, Concord, has been elected health officer of Cabarrus County.——Dr. James M. Covington, Jr., Wadesboro, has been appointed quarantine officer for Anson County.

PENNSYLVANIA

Appropriation for State Charitable Institutions.—The state, semi-state and charitable institutions of Pennsylvania appealed to the legislature for appropriations amounting to nearly $115,000,000, but the bill passed by the house committee carried an appropriation of less than one-fourth of that amount, or about $26,000,000.

Results of Free Antitoxin.—A remarkable saving of child life is shown by the latest figures tabulated by State Health Commissioner Dixon as to the free distribution of diphtheria antitoxin among the poor. A year ago he decided to distribute and urge the use of 5,000-unit initial doses of antitoxin. The death-rate at that time among the little children of the poor stricken with diphtheria and who were being treated with 3,000-unit doses of antitoxin was about 8 per cent. That meant a most gratifying saving of life for instead of 42 per cent. of death as is the case in diphtheria without the use of antitoxin, it meant that only 8 per cent. proved fatal. But now out of 1,225 cases of diphtheria treated with the 5,000-unit doses distributed by the State Health Department, there were only eighty-one deaths, or 6.61 per cent., the lowest death-rate in the record of the department's work.

Philadelphia

Willard Memorial Service.—Services in memory of Dr. De Forrest Willard, who occupied the chair of orthopedics in the University of Pennsylvania, were held at the Second Presbyterian Church on May 8, members of the medical profession and university students participating.

Addition to Woman's Hospital.—The Woman's Hospital of Philadelphia, is now celebrating its fiftieth anniversary by placing a roof garden on the building. This will contain public and private wards, with sun parlor, sheltered walk, diet kitchen and a fire tower. The partitions will all be of glass.

Steamer Detained at Quarantine.—The Italian steamer *Verona* from Genoa for Philadelphia, via New York, was detained several hours at the state quarantine, Marcus Hook, May 10, on account of the discovery of a suspicious rash on two children of the steerage. After observation, it was reported that the children were suffering from chicken-pox and the steamer was released.

Personal.—Dr. Allen J. Smith, dean of the medical school of the University of Pennsylvania, has been appointed professor of pathology, vice Dr. Richard M. Pearce, who will take the chair of research medicine.——Dr. Wendell Reber has been appointed visiting ophthalmologist to the Philadelphia General Hospital, vice Dr. Charles A. Oliver, deceased.——Dr. H.

Maxwell Langdon has been appointed one of the chiefs of the eye dispensary of the Presbyterian Hospital.

Eligible List for Blockley.—Of the 143 young physicians examined by the Civil Service Commission for the 28 positions as interns in the Philadelphia General Hospital, only 3 failed to obtain the required average of 70 per cent. The general average obtained by the successful applicants was 80.6 per cent. Of those who successfully passed the examination, 73 are graduates of Jefferson Medical College; 29 of the Medico-Chirurgical College, 28 of the University of Pennsylvania, 9 of Temple University and 4 of the Woman's Medical College.

Milk Show Opens.—The first Philadelphia Milk Show opened May 20, at 10 o'clock; about 700 people visited the rooms before noon. The thing that most pleased the sanitation and health experts was the keen interest exhibited by all and the careful attention given to the impromptu lectures on the various exhibits. At 12:20, Dr. H. Brooks Mills, by means of motion pictures, demonstrated in the lecture hall, adjoining the exhibition rooms, the evils of the ordinary housefly. At 3 p. m., the mayor delivered the address of welcome and addresses were made by Dr. Joseph S. Neff, director of public health and charities; Dr. Samuel McC. Hamil, chairman of the Philadelphia Pediatric Society Milk Commission, and Dr. Charles J. Hatfield, vice-chairman of the executive committee of the milk show presided. In the evening, addresses were made by Drs. Lawrence F. Flick, Randle C. Rosenberger and John C. Gittings. The show was open all the following week and a feature of Monday, May 22, was that all lectures and demonstrations were given in Yiddish.

Open-Air School Opens.—The open-air school for tuberculous children on the roof of the College Settlement Building was opened May 16. It is conducted under the auspices of the Board of Public Education, the Phipps Institute and the College Settlement. The Phipps Institute supplies the management of the school, the nurse and the food; the Board of Education furnishes the teacher, text-books, desks and the pupils, who are transferred from various schools, and the College Settlement gives the use of the roof, shelter, playgrounds, bathing and cooking facilities. The class is to be made up of twenty pupils, gathered from schools in walking distance from the College Settlement and will continue through the summer. Ten pupils reported the first day and were each given a tooth brush, tooth powder, mouth wash, wash rag, brush and comb and nail brush and instruction in the use of these articles was the first lesson given. The school will open at 8 o'clock each morning, which is the hour for the bath. At 8:30, breakf st is served and at 9, lessons begin in the open air and continue until 10:30. From 10:30 to 11, there will be games, followed by a wash and rest until noon when a hot dinner will be served in the dining room of the Settlement Building. From 1 to 3, complete relaxation and rest, the children lying extended; from 3 to 4:30 lessons and games and then rest until 5:30, when the children are sent home after indulging in a good wash. Dr. Frank Craig is in direct charge of the work. The Phipps Institute plans to erect a large new school at Seventh and Lombard Streets, to which on completion, this class will be moved and as many more like it established as funds will permit.

GENERAL

Clinical Investigators Elect.—At the annual meeting of the American Society for Advancement of Clinical Investigation, held in Atlantic City, May 8, Dr. Theodore C. Janeway, New York City, was elected president; Dr. Joseph Sailer, Philadelphia, vice-president; Dr. Wilder Tileston, New Haven, Conn., secretary, and Dr. George Blumer, New Haven, Conn., treasurer.

Therapeutic Society Meets.—At the twelfth annual meeting of the American Therapeutic Society, held in Boston, May 13, the following officers were elected: president, Dr. Alexander D. Blackader, Montreal, Que.; vice-presidents, Drs. Howard Van Rensselaer, Albany, N. Y.; Robert T. Morris, New York City, and Clarence J. Blake, Boston; secretary, Dr. Noble P. Barnes, Washington, D. C., and treasurer, Dr. A. Ernest Gallant, New York City.

The Care of Epileptics.—The National Association for the Study of Epilepsy and Care and Treatment of Epileptics will hold its tenth annual meeting in St. Louis, June 16, under the auspices of the St. Louis Medical Society. The date set for this meeting will allow the members to attend the meeting of the American Medico-Psychological Society in Denver and will not interfere with their attendance at the American Medical Association at Los Angeles.

Medical Library Association Meeting.—The fourteenth annual meeting of the Medical Library Association was held May 9-10 in Atlantic City. On the first day the president's address was delivered by Dr. John H. Musser, Philadelphia, and papers were read on "Hospital Records in Relation to the Hospital Library," by Mrs. Grace W. Myers, Boston; on the "Establishment of Medical Libraries in County Medical Societies," by Dr. Carl Black, Jacksonville, Ill., and on "The Changes in Medical Periodical Literature Since January, 1909," by C. Perry Fisher, Baltimore.

Warning Concerning Subscription Company.—Correspondents at various points in the northwest write that they paid subscriptions to THE JOURNAL to "A. S. Brown," who claimed to represent the Seattle Subscription Company, of Seattle, Wash. These letters have come from Montana, Dakota and Oregon. One physician writes:

> "A short time ago I was 'stung' by a medical magazine canvasser. . . . He was a well-dressed young fellow . . . offered any of the medical magazines at a reduction in the regular cost. . . . I had been intending to subscribe for . . . and I gave him an order and paid $4.20 (regular price $5.00). He had a small, black, leather-covered handbook that was pretty well worn and contained a list of all medical magazines, the regular price of each, the price this company was making and the price he would make if more than one was taken."

THE JOURNAL has repeatedly called attention to the danger of paying money to unknown persons. The more flattering the offer the more suspicious one should be. In this instance, it seems that there is no such concern as the Seattle Subscription Company; at least several of those who have written say that the postoffice returned their letters with the information that this company could not be found.

The Plague.—The international plague conference which met last month at Mukden apparently did not accomplish much; but it was an epoch-marking event in that it showed how China has cast off its ancient medicine and turned to the West for aid in warding off the threatened epidemic. This conference and also the general subject of plague are discussed by our Manila correspondent in this issue. The disease seems to have been stamped out in Manchuria, after causing 31,450 deaths according to the official records, and it has subsided in northern China, but our British exchanges state that in India there were 166,135 deaths from the plague during March, a total of 332,554 during the first three months of the year. March and April have shown the maximal mortality each year during the present siege of plague in India. Egypt still has a few scattered cases of the plague as also the western South American countries and southern Russia.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, April 4, 1911.

The Alleged Economic Value of Plague and Other Scourges

Some weeks ago I reported to THE JOURNAL some phases of the plague situation and scare in Shanghai, China. After many deaths among the Chinese and several among the Europeans, the pestilence seems to have been got rid of. Among the results other than the loss of life, are to be counted more or less political wrangle and a furtherance of sanitary measures and of medical education in this part of China. The medical missionaries, the few hospitals and the Chinese may be said to be cooperating more closely, and a new medical school, based on Western principles, is almost in view. Before the Shanghai pestilence was eradicated, another more serious epidemic of plague broke out in Manchuria. The epidemic in Manchuria has been decidedly more extensive and severe, and conditions at times have been alarming. The cities of Mukden and Harbin have been the principal sufferers. The reported conditions at Mukden remind one of the great plague year in London, so well described by DeFoe. At one time the spread of the disease was becoming so extensive that the foreign legations at Peking threatened to be abandoned entirely. It is interesting to note that the spread of the contagion was limited almost entirely to the regions supplied by the railroads, and Russia and Japan have been severely criticized in this regard.

The Manchurian epidemic of plague is not the bubonic form which is so prevalent in southern China and India. It is the so-called pneumonic plague, the etiology and distributing agent of which is practically unknown. It is interesting and gratifying to note with what promptness and foresight the Chinese government has risen to the occasion and is attempting the eradication of the epidemic. Aside from strict quarantine measures, the government has asked all the great

powers to send delegates to an international plague commission for the study and prevention of this particular plague. The Chinese themselves are supplying ample funds for the commission and are placing every facility at their disposal.

Dr. Richard Pearson Strong, chief of the Biological Laboratory, Bureau of Science, Manila, and Dr. Oscar Teague of the same laboratory are representing the United States government on the commission. They left for Manchuria in February and took with them a large supply of laboratory apparatus and chemicals. We have as yet no report of their work, further than that they have their laboratory established and are finding conditions fairly favorable for investigation.

As is usually the case when there is any extensive disturbance in China, the foreign nations are accused (and perhaps rightly so in the majority of cases) of using it each to further individual ends, so Russia and Japan each and jointly have been facing serious indictments during the present epidemic. At any rate Russia seems unduly active on the western frontier and Japan, although the Mikado is reported to have given a half million yen ($250,000) toward the eradication of the plague, seems to have urgent need for an increase in her military strength on the Korean border and in Manchuria. Some of the Japanese papers which are supposed to reflect much of the sentiment of the government are maintaining that it is time for Japan to take the plague situation in hand. The following regarding the plague situation in Manchuria forms part of the report of an inquiry made by the *National Review* of Shanghai: "Other features of the situation are commented on in the same interviews, and we gather that Japan, in spite of her vaunted medical advances and her superior civilization, is in very large measure responsible for the spread of the pestilence to the south. In November and December the railway authorities knew that there was plague in the north, and they also knew that with the approach of Chinese New Year thousands of coolies would be returning to their homes. They would very probably carry the plague with them, but in spite of this knowledge the railways carried trainload on trainload of these coolies. Then one day two deaths took place among the coolies who were traveling from Mukden to Shanhaikwan on the Chinese railroad. Plague was discovered and the whole trainload was sent back to Mukden. Only then did the other railroads take steps which should have been taken months before and which would have prevented the spread of the disease to China proper. This, dear readers, is Russo-Japanese efficiency, of which we have further examples reported from Mukden and Harbin by the Peking *Daily News*, in which a telegram states that these two governments are putting hindrances in the way of the Chinese authorities in their battle with the plague. Hence the responsibility for the spread of the disease from the area in which it originally occurred rests almost entirely with the Russo-Japanese agreement. Responsibilities generally carry with them opportunities, and so on the present occasion we learn that the two powers are strengthening their forces in Manchuria.

"It is pleasant to turn from this side of the question to what the Chinese government is doing. The cooperation of foreigners is everywhere being sought; funds are being provided without stint, as in Harbin, where the Manchurian viceroy has appropriated 150,000 taels for the work of prevention; there is ready acquiescence in the proposals of competent medical men in every one of the large centers where the pest is being fought; the Chinese government is sending its available men from every quarter; the senior students of the medical schools in Peking are being drafted to the work for inspection purposes; materials and prophylactics are being hurried from Europe; and, generally, it may be said that every effort of which any government under the circumstances would be capable is being put forth by the Chinese government. Observers on the spot testify to these things universally, and the result is that during the last two or three days the news from every point has been more satisfactory. The actual number of cases is less, the fatalities are fewer, the arrangements are being rapidly perfected, and if the present resistance to the spread of the epidemic can be maintained there is some hope of seeing its extinction at a not distant date. The strict quarantine that is being enforced at all ports regarding vessels from the infected area may cause temporary inconvenience, but it will undoubtedly prove an effective barrier to the further march of the pestilence, and the fact that there has been a fall of two feet of snow will naturally impede travel on foot and thus hinder the spread of the disease."

BLESSED BE THE PLAGUE!

The foregoing cannot, however, be taken to reflect the attitude of more than the Chinese government, and a limited number of the more highly educated (as viewed by western standards). The average Chinaman more probably holds views more like this. I was talking recently with a native friend about the possibility of Hankow's receiving a visit from the plague scourge. Being anxious to impress him with a sense of the gravity of the situation, I laid on the color with a big brush. "Supposing," I said, "just one man were to arrive here with the seeds of the disease and were to take up his abode in one of the crowded inns, it is so contagious that probably all the people in the inn would get infected, and every one of them would ultimately die. Before that, most of them would have gone away, as it takes from three to five days from the infection till the sickness sets in, and wherever they went they would infect others in the same way, till the people would soon be dying in hundreds and thousands. If it started among the poor people in the mat huts, it would simply clean them out. Sometimes whole regions are depopulated. Once, twenty years ago, on the Canton border in south Huan, we went through a district where, for a whole day's journey, there was not an inhabitant left. Some kind of plague had killed most of them and the rest had run away. The houses were well built and the fields were fertile, but except a few dogs there was no one about, and whoever wished was quite welcome to take possession."

At this point my native friend broke in with his views. To my amazement he declared that that was splendid, and just the very thing which Hupeh wanted. He said that there were far too many people in the province, and that there were not fields enough for all of them to till, nor rice enough to fill their mouths. Every year they were increasing, as all the young people married and had big families. Because of this China was weak. If you put too many goldfish in the globe they will die, and if you sow your vegetables and flowers too thick they will not come to anything. It was just the same with people. And unless something happened to reduce their numbers they would be in time compelled to eat each other, which would be a worse state of affairs than the plague. What answer to make to this I did not know, and do not know yet.

A friend of mine was recently traveling through the districts in Kiangsu where the famine raged so frightfully in 1907, and he was similarly nonplussed when he found the people everywhere speaking of the famine as a great blessing, because ever since then there had been food and to spare for all, and plenty of work for those who wished to labor. The question of the rapid multiplication of Oriental people, in connection with the present advance of Christianity and civilization, is one which in a few generations will become serious. It is estimated that, given peaceful times and prosperous years, the population of this empire could be doubled in a generation. There are 400,000,000 now. Supposing that, by the end of a century, this number is doubled three times, we then arrive at the appalling total of 3,200,000,000 of people. Hitherto the increase has been held in check by the constantly recurring calamities of war, famine and pestilence. It is estimated that the Taiping, the Yunnan and the Kansuh Muhamadan rebellions resulted in the destruction of fifty millions of lives. The Shansi and Shantung famine of 1878 is said to have swept away from nine and a half to thirteen millions. This is within comparatively recent times, and never a year passes without similar disasters on a smaller scale. But we are looking forward to a period when, through the increase in knowledge, the prevalence of higher principles, and the advance in the organization the above-mentioned trinity of evil will be shorn of its strength; and what then? The answer is not easy. Meanwhile it may be asserted that China as a whole is not overpopulated. Science may yet teach us how to increase vastly the fruitfulness of the earth. Our hope is that the same advance in knowledge and better principles which create the difficulty will also provide the cure.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 12, 1911.

Inspection of the Stomach

At the Royal Society of Medicine Dr. William Hill, laryngologist, and Dr. Herschell, gastrologist, demonstrated a new form of gastroscope. The principle is to pass under cocain anesthesia an open endoscope of Killian's pattern through the mouth, pharynx and esophagus, under direct vision throughout, into the stomach. A cap with a tap for inflation at its side and a round aperture in its upper surface is then attached by means of a bayonet joint to the proximal extrem-

ity of the tube. Through the round aperture, which has a rubber lining, an indirect periscopic tube, which accurately fits the aperture, with a terminal lamp on the cystoscopic principle, is passed into the stomach through the lumen of the direct vision outer tube. Inflation is commenced before the inner optical tube reaches the stomach. The upper part of the pyloric antrum, the pyloric orifice, and the adjacent portion of the lesser curvature, all in the field at the same time, were shown to the members of the society. Examination of the cardiac orifice is best done with the outer inflating portion of the apparatus, which has a plane glass window at the proximal end to prevent the escape of air when inflating. The rest of the stomach, especially the pyloric vestibule and lesser curvature, the most frequent sites of election of morbid lesions, are more efficiently examined on the cystoscopic principle by the indirect vision periscope inserted through the outer tube. The essence of the method is that the gastroscope is not, as in previous methods, passed into the stomach blindly. In previous methods this was done and resulted in casualties which discredited the method. Drs. Hill and Herschell are now studying the normal appearances of the interior of the stomach. They have not yet begun to use the instrument for diagnosis in the pyloric region. In acute ulcer and hemorrhage they would hesitate to use the instrument, but they think that it will prove useful in the diagnosis of chronic ulcer from malignant disease.

The British Medical Association and the Metric System

In pursuance of the instruction of the annual representative meeting, the council of the British Medical Association has considered the question how the metric system can be adopted with the least inconvenience for prescribing and dispensing. The council recognizes that the full adoption of the system depends on its being made the method according to which students are trained, so that they will learn to think of quantities primarily in grams, centimeters, etc., instead of, as at present, in grains and minims, etc. It therefore recommends that the teaching of pharmacology, both theoretical and practical, shall henceforth be according to the metric system. The advantages of the system, in addition to the simplification of calculations, are (1) the assimilation of the measures used in the laboratory to those adopted in practice, which will make the reports of the investigator more readily intelligible to the doctor and tend to keep him in closer touch with science, and (2) the gain to the work of all nations by being stated in terms mutually intelligible. But the difficulties of introducing the system at present are considerable, as almost all doctors are trained only in the English system and find it hard to adapt themselves to the new system, even when they dispense their own medicines. When they do not dispense there is a difficulty in bringing about cooperation between physician and pharmacists. For doctors trained in the present system the council recommends the adoption of a transitional procedure which would enable them at once to adapt their prescriptions to the metric system and so avoid the drawbacks of a divergence between junior and senior practitioners. The difficulty of the doctor trained to think in terms of grains and minims is to translate his terms into grams and cubic centimeters. If absolute exactitude were necessary he would require the constant use of tables of equivalents. But it is not, as the common mode of administering drugs by spoonfuls shows. The council therefore has recommended the adoption of an ingenious suggestion made by Dr. R. C. Buist, by which a prescription according to the present system may be automatically converted into the metric system. This is done by taking the figure 16 as the factor for converting grams into grains and cubic centimeters into minims. The error is not great, as the exact factors are respectively 15.4324 and 16.906. Now in ordinary prescribing sixteen doses are usually ordered in a mixture, as represented by tablespoonful doses of an 8-ounce mixture. If therefore as many grams or cubic centimeters are dispensed in the whole mixture as grains are ordered for a single dose according to the old system a closely approximate result will be produced. Thus all the doctor need to do is to write a single dose according to the old system, omitting the symbols, and the dispenser may be instructed in such case to follow the metric system. Obviously a similar plan can be adopted for mixtures in which the dose is in teaspoonfuls, that is, ounce or 2-ounce mixtures, the only requisite being that there should be sixteen doses in the mixture. In ordering pills or powders a different procedure must be adopted. In the old system fractions or small multiples of a grain are used. The prescriber must therefore become familiar with the fact that 1 grain = 0.06 gm., which is near enough for practical purposes. To facilitate the work of the dispenser the number of pills or powders ordered should be a multiple of ten.

Felt Manufacture and Anthrax

An important government report on this subject by Mr. H. Verney, an inspector of factories, has been issued. He discusses the preliminary processes in the manufacture of felt and the possibility of eliminating blood-stained material. The raw materials are chiefly East Indian wool, jute, and wool waste. The various ingredients are mixed and placed in superimposed layers. The wool is tightly compressed and has to be pulled apart with considerable force. In doing this some of the dust escapes which may contain the spores of anthrax. A machine called the "willow" is used to tear the fibers apart and in this process a cloud of dust is driven into the face of the attendant. What is required is a willow with an automatic feed and delivery. The material then goes through further teasing in a machine called a "devil" and is then carded, which straightens out and cleans the fibers. In the latter process dust and short dusty fibers are produced. To make the process safer an improved type of willow and the provision of overalls and respirators are considered necessary. It appears almost impossible to eliminate blood-stained material from the wool.

Accidents and the Negligence of the Public

A curious question has engaged the attention of the court of appeal. A man after descending the stairs of a railway station slipped on a piece of banana-skin on the platform, fell against a wall, and sustained a compound fracture of the right arm. He sued the railway company for negligence on the grounds that it was the company's duty to remove dangerous things from their passages. The jury decided in his favor and awarded him $2,500. The company appealed, showing that its servants had orders to sweep their premises twice a day and to remove dangerous matter. There was no evidence as to how the banana-skin came to be on the platform or that any opportunity to remove it had been neglected. The verdict of the lower court was set aside, the presiding judge in the higher court, Lord Justice Williams, pointing out that the onus was on the plaintiff to show that the accident was due to want of reasonable care on the part of the defendants. There was no evidence to show when the banana-skin had been thrown down. It might have been dropped within a second of the accident.

The Crusade Against Tuberculosis

The campaign against tuberculosis continues to develop throughout the country. Of the thirty-five large cities other than London, thirty-three have made arrangements for the bacteriologic examination of the sputum of suspected persons; twenty-one have by-laws against spitting; nine use their isolation hospitals for the reception of patients; three use the workhouse, and two are building sanatoriums for themselves. With regard to notification some difference of opinion and practice exists. The advantages are obvious, but the difficulty is that the subjects of tuberculosis are often shunned as if they were lepers. Of the large cities only four have made notification compulsory but in most of them voluntary notification exists. In London notification of all pauper cases is compulsory. The rooms occupied by a consumptive are disinfected and in some cases this is done weekly. Numerous voluntary agencies engage in the struggle against tuberculosis, in cooperation with the sanitary authorities. They visit the patients and provide clothing, food and other necessaries. In London there are three tuberculosis dispensaries at work and five others are being established. These are all supported by voluntary contributions, though they work in connection with the sanitary authorities. The after-care of patients discharged from sanatoriums is receiving attention. At Bradford there is a Civic Guild of Help which sees that the patient lives, as far as possible, under the same conditions as at the sanatorium.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, May 5, 1911.

The Effect of Altitude on Aviators

On April 24, Dr. René Cruchet, *agrégé* professor of the Faculté de médecine de Bordeaux, reported before the Académie des Sciences the result of studies that he, with Dr. Moulinier, professor at the Ecole de santé navale de Bordeaux, had made on a number of aviators. The physiologic troubles felt in an aeroplane ascent are very similar to those which are felt in mountain-climbing, but are felt at a much lower

altitude, that is, between 800 and 1,200 meters (about 2,600 to 3,900 feet). Above 1,500 meters (about 5,000 feet) the cold becomes extremely painful and hinders the movements of the aviator very much. The cold on mountains does not become troublesome until a much higher altitude is reached. In the aeroplane ascent the respiration becomes shorter, the heart beats more rapidly; soon headache encircles the temples and a kind of malaise, sometimes affecting the stomach, is soon felt. Humming, whistling or ringing is heard in the ears and hypo-acusia appears. Finally, a violent desire to urinate appears, growing more and more imperative. All the preceding troubles are intensified in the descent; and in addition a burning sensation is felt over the face, which is red and congested; then a headache much more intense than in the ascent, and an invincible desire to sleep. This phenomenon corresponds with what occurs daily in the descent of high mountains by cable road, the Jungfrau, for instance. These disturbances become accentuated on the aviator's landing and even persist several hours afterward, the headache being sometimes accompanied by vertigo. After measuring the blood-pressure before the ascent and at the minute of landing, Drs. Cruchet and Moulinier ascertained that there was at the latter moment a hypertension, both minimum and maximum, shown by differences of from 0.5 to 0.3 cm. of mercury according to the altitude attained. This is one of the most remarkable facts ascertained, in view of the fact that free circulation of air, as well as fatigue, brings about a lowering of blood-pressure. The phenomena of hypertension, of headache, of auditory troubles and of sleepiness increasing during the rapid descent and persisting after landing are due, essentially, to the swiftness with which aviators after reaching a high altitude return to the ground. After taking thirty, thirty-five or forty minutes to reach a height of 2,000 or 3,000 meters, they descend in from five to seven minutes, that is to say, at the rate of 300 to 400, or even 500, meters per minute. Our organism, and specially our circulatory system, is not made to adapt itself to the different atmospheric pressure which the aeroplane attains in so short a space of time. These facts, therefore, not only have a scientific interest, but show that aviators should descend much more slowly than they do at present.

Superintensive and Intermittent Treatment of Syphilis with Mercury in Several Forms

On May 2, Dr. L. Jacquet, physician of the hospitals of Paris, read before the Académie de médecine a paper insisting on the fact that salvarsan, whatever its merits, ought not to cause mercury to be forgotten. Dr. Jacquet declares that the full potentialities of mercury have not yet been demanded from it, and he claims to have a method of administering mercury superior in certain respects to the usual methods. He administers simultaneously, for short periods, lasting from one to five days (1) two pills, each 5 cg. of proto-iodid of mercury, during each of the principal meals; (2) a wash of 20 gm. of Van Swieten's liquor (a solution of 1 part of mercuric chlorid in 100 parts of alcohol and 900 parts of water) in 100 gm. of warm water, to which is added a little laudanum; (3) friction with 2 gm. of mercurial ointment (50 per cent. mercury); (4) an injection of 1 cg. of biniodid of mercury. Then there is a complete pause for five, ten or fifteen days; after this pause, a resumption of the same doses, and so on for three, four or five consecutive periods.

Not counting the gram of mercury incorporated in the ointment, of which the absorbed portion cannot be estimated, though it must be considerable, as has been shown by the well-known curative effect of the rubs, the total of 8 cg. of pure mercury daily absorbed is arrived at. But this superintensive treatment makes use of all the channels of penetration by which medicine can be absorbed, and that without irritation, since, while the total mass of mercury absorbed is enormous, the effort demanded of each channel of absorption is moderate. Moreover, the treatment is discontinuous, that is to say, by successive mercurial attacks, sufficiently distant from each other so that elimination may occur.

Dr. Jacquet has treated about eighty patients in this way. During the first stage, the chancre has visibly retrogressed and so has the adenitis and the duration seems to have been considerably shortened. During the second period, action is rapid on the roseola and on the greater number of the cutaneous syphilids. There is very weak action or none at all on the mucous tracts, as is usual in the classic treatment. Here, without doubt, salvarsan is greatly superior. On the other hand, a remarkable action has been observed on the general phenomena and on the nervous reactions of the period. During the tertiary period, Dr. Jacquet expects only success, and has obtained results as remarkable as with salvarsan. The superintensive treatment is indicated in all cases in which one wishes to act quickly and forcibly and in which one cannot or does not wish to employ salvarsan. It ought to be instituted only on patients daily and minutely observed, and only after the mouth and the teeth have been put in perfect order, and it has been ascertained that the kidney and the renal functions are intact. At the first untoward sign the treatment ought to be suspended.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 5, 1911.

Personal

Professor Gerhardt, director of the medical clinic at Basel and son of the renowned clinician, has been called to Würzburg as successor of Prof. v. Leube.

At the end of the summer semester Professor Trendelenburg, the prominent Leipsic surgeon, will resign his teaching position, although he is only 67.

Professor Eversbusch, director of the Munich eye clinic, celebrated his twenty-five year jubilee as professor.

Privy councilor Professor Lent recently died at the age of 79. Lent has rendered great service in the field of public sanitation and in working for the professional interests of German physicians. He was one of the founders of the German medical league (*Aerztevereinsbund*), and for a long time its second chairman, and the chairman of the executive committee of the Prussian Medical Chamber (*Aerztekammer*).

Annual Meeting of the German Surgical Society

In the latter part of April the *Chirurgen-Kongress* was held as usual in Berlin. The attendance at the meeting is increasing from year to year; this year there were quite 900 surgeons present. The first session was opened by the president, Professor Rehn, of Frankfort, with a memorial address on von Langenbeck whose hundredth birthday was celebrated November 9 of last year. Of the numerous subjects treated at least the most important may be mentioned.

DISINFECTION OF HANDS AND FIELD OF OPERATION

Küttner of Breslau discussed disinfection of the hands and field. Among chemical disinfectants the phenol preparations have constantly gained more adherents. Alcohol has established its power of fixing germs, but the views regarding its practical application are still at variance. Tincture of soap is not as reliable in its action as was formerly assumed. Heusner's method with iodobenzin has an established position; rubber gloves are used at septic operations by almost all operators, but not by so many in aseptic operations. The use of tincture of iodin for the rapid disinfection of the operation field is continually gaining more adherents, although Kocher of Bern holds that evidence has not yet been produced for its superior efficacy.

EXOPHTHALMIC GOITER

Kocher reported on hyperthyroidism and its treatment. In all cases of this disease he has found pathologic changes in the thyroid gland with increase of its secretion and increase in the iodin content of the secreted fluid. Experimentally the disease can be produced by injection of the expressed juice of the thyroid gland, or by the substance of the gland, or by iodin and the thyroid juice. Undesignedly the symptom-complex of exophthalmic goiter has been aggravated in man by the action of these medicaments. A change in the blood picture occurs as a result of the internal secretion of the thyroid gland. On the basis of this blood finding the diagnosis may be made of excessive secretion in the thyroid gland. There are, however, clinical pictures that vary from the genuine hyperthyroidism which are to be explained by the supposition that the juice of the thyroid acts on different nerves. As causes of the disease, severe psychic shock, the use of iodin in diseases of the thyroid, and infectious diseases must be considered. The phenomena are increased at the time of certain physical changes in women. As the entire disease depends on an excessive increase of the glandular function, improvement can be effected only by surgical measures; that is, by removal of part of the diseased gland. Failures occur only from the removal of too little of the thyroid. The mortality of his 535 operations on the thyroid has been 3.1 per cent. The best remedy is early operation at the beginning of the disease. Klose of Frankfort has produced the disease experimentally by injection of the expressed juice of the diseased human gland; he regards this affection as an iodin poisoning. Garrè of Bonn has seen marked improvement in the heart symptoms of exophthalmic goiter after removal of the thymus. In

his opinion, there are cases which are produced by a disease of the thymus gland. Halsted of Baltimore discussed the danger of tetany from the removal of small glandular formations lying by the side of the thyroid gland. This may be avoided by careful operation and by the administration of chemical remedies. Dollinger of Budapest recommended partial removal of the outer wall of the orbit in extreme exophthalmos to prevent changes in the cornea and pain. Eiselsberg of Vienna also regards this disease as an affection of the thyroid and internal treatment as unsuccessful. The operation is more dangerous than other thyroid operations because, as a rule, the patients come too late and as a consequence much greater heart changes have occurred. He has had six deaths among seventy-one operative cases, which is chiefly to be explained by the fact that the patients came to operation too late. His curative results have been brilliant. He is very enthusiastic for early operation. Küttner of Breslau has investigated cases of severe and long-continued disease, and has found that patients treated with internal remedies have all remained uncured. Of the others over 69 per cent. were cured or materially benefited. Schultze of Berlin found among twenty cases eighteen in which the thymus was demonstrable by fluoroscopy, and in eight of nine fatal cases he found the thymus enlarged. This confirms the experience of Garrè regarding the influence of the thymus in the origin of exophthalmic goiter. Rehn of Frankfort obtained a marked improvement by operation in a case of severe psychic affection. Kocher of Bern has frequently seen psychic symptoms without operation, but he has been unable to find any case of an unfavorable effect of the operation.

TRANSPLANTATION OF TISSUES AND PARTS OF LIMBS

Lexer of Jena made an extensive report on the transplanting of skin, mucous membrane, fatty tissues, nerves, blood-vessels, tendons and periosteum. In the transplantation of tendons the favorable action of a functional stimulus is especially important. The periosteum is well suited for free transplantation both in the same organism and in other individuals. Cartilaginous tissue, on account of the easily accessible sources from which it can be taken, is especially suitable for transplantation in the same individual. From these two peculiarities of bone and cartilage, results the possibility of transplantation of entire joints which has been executed with success by the author. The transplantation of entire limbs has given no utilizable results from experimental work. Our surgical technic justifies us in the hope that a nearer approach to the solution of all these questions will be made. König, of Greifswald, has made attempt to close open wounds of the mucous membrane by free transplantation. This has been successful even with large openings in the stomach and intestine. The method has the disadvantage that it gives ready opportunity for broad adhesions. In closure of openings of the bladder and rectum, the results were good. Hohmeier, of Greifswald, has further tested the above question by experiment, especially in closing wounds of the air passages. Schöne, of Marburg, discussed the possibility of transplanting tissues from a foreign species. The difficulty of securing healing depends on the peculiarity of the metabolism. Landois, of Breslau, introduced parathyroids into the circulation but the transference was not successful. According to Rehn, transplantation of fatty tissue does well in the same individual but badly in a foreign organism. For bridging gaps in bone as well as in bone operations in general, the horn of animals is very suitable. Küttner made a further report on a patient in whom the head of the femur had been removed and was replaced by the corresponding part of the femur of a cadaver. As the patient had died later of a new tumor formation, preparation of the transplanted part could be shown, and a completely solid union of the two parts was evident. In addition a second patient was shown who had been operated on in a similar way, nine months before, and in whom various subsequent operations had not endangered the union of the implanted part of the cadaver; also Roentgen pictures of a third patient were shown. The method of Lexer thus makes it possible with the parts of a cadaver to realize a temporary and probably a permanently successful transplantation of a joint. Tilmann, of Cologne, replaced the loss of a lower jaw by bone from the tibia, but the bone later was thrown off. Goebell, of Kiel, cured a dislocation of a patella by transplantation of tendons and he has successfully sutured bone with strips of periosteum. Baum, of Kiel, tried to cure pseudarthrosis by transplantation of bone but without success. Eiselsberg, of Vienna, replaced parts of the urethra by blood-vessels, and Streissler, of Graz, by the vermiform appendix. Friedrich, of Marburg, warned against too extensive resection and transplantation in malignant tumors of the bone because new tumors very easily arise in such cases. Müller, of Rostock, warned against too great expectations from the transplantation of bones from the cadaver. Bramann, of Halle, has closed defects in the dura mater with fat, and König, of Greifswald, has replaced the lacking lower jaw with ivory. Lexer, of Jena, presented a patient who had suffered an extensive ulceration and constriction of the esophagus from drinking sulphuric acid. Lexer made a new esophagus, from the stomach to the neck, out of a strip of intestine and the skin, with excellent functional results. The patient was presented and ate and drank solid and liquid substances, and the passage of food into the stomach could be observed.

MALIGNANT TUMORS

Werner, of Heidelberg, stated that he had not seen much good result from the injection of serum for the cure of malignant tumors. Moreover, no marked success has been achieved by other remedies, such as the *x*-ray and radium. He recommended open treatment of the wound and its subsequent treatment with *x*-ray in case of very advanced, scarcely operable tumors. In other respects, he regards operation as the most effective means for the treatment of malignant growths. Bier, of Berlin, showed a patient who had been cured of a very extensive inoperable cancer by an incomplete operation and subsequent treatment with boric acid-gelatin. Dreyer, of Breslau, has used salvarsan in a case of malignant adenomas with good results.

OPERATIONS ON HEART AND LUNGS

Hesse, of Dresden, reported seven cases of wounds of the heart, with six operative cures, and he gave in conclusion some hints on the operative technic and after-treatment of such patients. E. Hesse, of St. Petersburg, reported twenty-one wounds of the heart which he had operated on in the last seven years, curing six of the patients. All those in whom the auricle was injured, died. It is of very great importance that the patient come to operation very early. Fuchsig, of Schärding, operated with success on a wound of the heart complicated by a wound of the diaphragm. Wilms, of Heidelberg, recommended an intercostal incision in order to expose the heart; he has performed four operations on the heart, with the loss of two patients. Schumacher, of Zurich, called attention to the possibility of securing the atrophy of a certain part of the lung and thereby curing an inflammatory process in it. Two operations of this sort have already been made. A careful study of the anatomic distribution of the vessels will facilitate operations of this kind. Müller reported the operative removal of a tuberculous lobe of the lung. Kümmell, of Hamburg, removed an entire lung on account of a tumor formation but the patient died later as the result of purulent inflammation of the bronchi. Körte, of Berlin, and Friedrich reported a large number of operations on account of tuberculosis. Wullstein, of Halle, suggested that the lung might atrophy after ligation of the bronchi.

MOVABLE CECUM

Wilms discussed movable cecum and chronic typhlitis. The attacks of pain which formerly were ascribed to typhlitis may be occasioned by adhesions in the region of the appendix and cecum or ascending colon, so that dragging takes place when the intestine becomes full, or by kinks or torsion of the colon at the hepatic flexure or the attachment of the cecum, temporarily occluding the intestine. Wilms described still another clinical picture which has nothing to do with the above-mentioned lesions, but is the result of stagnation of the intestinal contents in the cecum. The contents may remain in the cecum for twenty-four hours or more, as can be shown by the Roentgen pictures. It becomes inspissated there, so that the other parts of the large intestine are subjected to increased labor in driving on the stool. Such patients generally suffer from a chronic constipation. The cause for the long stay of the intestinal contents in the cecum must be a reversed peristalsis in the ascending colon. This, in connection with the pathologic contraction produced by inflammatory irritation, explains the attacks of pain. These spastic contractions of the cecum and colon, which are secondarily stretched unduly long, cause dragging of the movable cecum on its mesentery. The pains with this chronic typhlitis are dragging pains, aggravated by a slight inflammatory condition in the region of the mesenteric nerves. For the recognition of this condition, in addition to palpation, by which a gurgling tumor is recognizable, the Roentgen picture is unconditionally essential. The successes achieved by Wilms by fastening up the cecum indicate that not only can the pains be relieved but that the chronic constipation

may be permanently cured. Not less than 75 per cent. of the patients operated on had normal stools after the operation without further treatment, while previously a stool could be secured only by the use of laxatives. In case of an unusually large cecum, Wilms recommends the exclusion of the cecum by direct union of the lowest part of the small intestine, next the cecum, with the transverse colon. An operation should be undertaken if the internal treatment of the constipation is difficult on account of social reasons or has been unsuccessful. De Quervain, of Basel, discussed the question how far we are justified in treating chronic disease of the colon by operative measures. The exclusion of the greater part of the large intestine, recommended by some, has rightly been condemned, as a vegetable diet is not tolerated in such cases. He recommends merely the implanting of the cecum into the transverse colon. Sonnenburg, of Berlin, could not agree with Wilms, since the cecum when it is movable causes symptoms only if inflammatory conditions are present. The Roentgen picture is unreliable. According to his experience, he would warn against too hasty resort to operation. Even cecopexy frequently has not the desired result. Stierlin, of Basel, reported three cases of severe obstipation operated on with success. The results achieved were demonstrated by the *x*-ray. Klose, of Frankfort, holds torsion of the cecum to be the cause of the disturbances, and also frequently the cause of acute appendicitis. Dreyer, of Breslau, found a movable cecum in 67 per cent. of his necropsy investigations and considers this anomaly, therefore, not the cause of the symptoms. Wilms' method of fastening up the cecum does not correspond to the physiologic requirements. Fromme, of Berlin, regards a certain mobility of the cecum in women as necessary. Körte, of Berlin, is accustomed to operate only with a view of preventing an acute attack in case of chronic lesions of the appendix. Sprengel, of Braunschweig, takes a similar view. Rehn, of Frankfort, supported the view of Wilms.

Association News

THE LOS ANGELES SESSION

Additional Data About Railroad Trains and Reunions at the Annual Session

THE JOURNAL contained last week an illustrated article on Los Angeles, the programs of the sections, the lists of hotels, trains, routes, entertainments, etc. Twenty-seven pages were devoted to the coming meeting at Los Angeles, June 27 to 30. Much of this matter had previously been published in THE JOURNAL. The following are additional items which have been received since.

HARVARD MEDICAL ALUMNI REUNION

A reunion and dinner of graduates of the Harvard Medical School who are attending the session of the American Medical Association at Los Angeles will be held Tuesday evening, June 27, at the University Club. All Harvard men are cordially urged to attend and to send word of their intention to Dr. Elliott Alden, 609 Exchange Building, Los Angeles, or to communicate with him at Registration Headquarters on their arrival in Los Angeles. DAVID CHEEVER, M.D., Secretary.
20 Hereford Street, Boston.

SPECIAL TRAIN FROM TEXAS

Texas members have arranged to run a special train to the Los Angeles session over the Fort Worth and Denver City Railway. The train will leave Fort Worth at about 11 p. m., June 21, and will reach the official route of the American Medical Special at Trinidad, Colo., some three hours ahead of that special. It is anticipated that enough will go in this party to fill one good-sized train. Further particulars may be had from Dr. Holman Taylor, Fort Worth, secretary of the State Medical Association of Texas.

A KENTUCKY TRAIN

Dr. A. T. McCormack, Bowling Green, Ky., announces that the Kentucky party will leave Louisville for Chicago, over the Monon Route, at 8:06 a. m., Wednesday, June 21. From Chicago the route will be over the Santa Fe. Pullman reservations for the trip may be made through Mr. E. H. Bacon, of the Passenger Department of the Monon, in Louisville. The entire expense of the trip should not exceed $150 for each person, including hotel bills and everything. At an additional expense of about $55.50 the trip through the Yellowstone Park may be made.

A CAR FROM OKLAHOMA

Members of the Southwest Medical Association and their friends are invited by the officers of that body to join the A. M. A. special. A special Pullman will leave Oklahoma City, Okla., via A. T. & S. F. and will be attached to the A. M. A. special at Newton, Kansas. For reservation or further particulars address the ticket agent of the A. T. & S. F. R. R., Oklahoma City, Okla.

SPECIAL PARTY RETURNING

A party will leave Los Angeles, Sunday, July 2, stopping at Santa Barbara, San Francisco, Portland, Tacoma and Seattle, with a daylight boat ride across the sound to Vancouver. From this point the homeward trip will be through the gorgeous scenery of the Canadian Pacific railway, with stopovers at Banff and other points and at Rochester, Minn. Round trip tickets must be purchased before starting, and should specify this route. For full information and itinerary, address Dr. Charles Wood Fassett, secretary, Medical Society of the Missouri Valley, St. Joseph, Mo.

RATES IN THE FAR WEST

The Southern Pacific has made a rate of one and one-third fare for the round trip in California, Nevada and Oregon. This is on the certificate plan. Arrangements will be made for the signing of the certificates at Los Angeles at or near the Registration Department in the Hamburger Building.

ANOTHER ROUTE FROM CHICAGO

Dr. Liston H. Montgomery, president of the American Association of Medical Examiners, has submitted the following itinerary and general information and invites readers of THE JOURNAL and their friends to consider its advantages. Leave Chicago 10:45 p. m., Wednesday, June 21, by the C. & N. W. Ry., in special Pullman cars running to Los Angeles without change. This train will arrive at Denver June 23, 7:30 a. m., and cross the Rockies on the Denver and Rio Grande by way of the famous Tennessee Pass, Grand Cañon of the Arkansas and the Royal Gorge of the Grand River, the mightiest chasm in the universe traversed by steel rails. At Salt Lake City there will be a stop-over of three hours with a complimentary organ recital in the Mormon Temple. Los Angeles is reached at 4:30 p. m., Sunday, June 25. The cost per capita for twenty-one days' outing from Chicago to Los Angeles, San Francisco, and return is, approximately, $160, a liberal estimate. As described in THE JOURNAL last week, for a little additional cost one may return by the northern routes through the great northwest and Puget Sound region and the beauties of the Canadian Pacific.

THE BURLINGTON TRAIN

The large number of prominent Chicago and eastern physicians who have made reservations for space on the Scenic Colorado Special organized by a committee consisting of Drs. Robert T. Gillmore, Charles B. Reed and Sydney Kuh, plainly indicates that this cool and attractive route, coupled with the desirable stop-over and side-trip features which have been arranged, is a favorite. This train will leave the Union Depot, Chicago, at 11 p. m., Wednesday, June 21, via the Burlington Route and will run through the heart of delightful Colorado via the scenic line of the Denver & Rio Grande R. R. to Salt Lake City, thence via the San Pedro, Los Angeles & Salt Lake R. R. (Salt Lake Route) direct to Los Angeles, arriving at noon, Monday, June 26. Among the desirable features of this route are visits to Denver, "Queen City of the Plains," Colorado Springs and Manitou, "The Saratoga of the West"; a trip to the summit of Pike's Peak, a trip through the famous Royal Gorge; miles of grand mountain scenery; a plunge in Glenwood's great, open-air swimming pool and a special recital on the organ in the tabernacle of the Mormons. Officials of the Burlington declare that this special train de luxe will be one of the finest trains that ever left Chicago and suggest that those who have not done so should make their reservations without delay through Dr. Robert T. Gillmore, 31 North State Street, or Mr. A. J. Puhl, General Agent, Passenger Department of the Burlington Route, 141 South Clark Street, Chicago.

Marriages

ANNA FRANCIS RIES, M.D., Ogden, Utah, and Maurice Foster Finley of Bishop, Cal., at Salt Lake City, Utah, May 12.

WALLACE JOSEPH CHARLES AUBRY, M.D., Champlain, N. Y., to Miss Dora Thomas of Granville, N. Y., May 10.

EDGAR LEE WHITE, M.D., Lewiston, Ida., to Miss Catherine Leyden Rouse of Spokane, Wash., April 7.

HARVEY M. RAUCH, M.D., Pittsburg, Pa., to Miss Laredo Shafer of Somerset, Pa., May 10.

STILLWELL CORSON BURNS, M.D., to Miss Reba Faunce Eyre, both of Philadelphia, May 10.

SAMUEL WILCOX FORNEY, Chicago, to Miss Vera J. Aldrich of Petoskey, Mich., March 22.

JAY L. ARMSTRONG, M.D., to Miss Katherine A. Stevens, both of Chicago, May 14.

Deaths

Andrew Marcus Trawick, M.D. Vanderbilt University, Nashville, Tenn., 1881; a member of the American Medical Association; formerly president of the Nashville Academy of Medicine; a Confederate veteran; formerly a clergyman of the Methodist and Cumberland Presbyterian churches; died at his home in Nashville, May 8, from septicemia following an operation for facial neuralgia, seven weeks before, aged 64.

William Henry Bell, M.D. Toronto School of Medicine, 1864; a member of the Indiana State Medical Society and its president in 1883; formerly a member of the American Medical Association; from 1865 to 1868 attending physician in the Southern Ohio Hospital for the Insane, Dayton; for twenty years local surgeon of the Wabash System; died at his home in Logansport, May 3, from cerebral hemorrhage, aged 71.

James W. Morgan, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; assistant surgeon of the Fortieth Iowa Volunteer Infantry during the Civil War; a practitioner since 1859; a member of the staff of the Moline Public Hospital and St. Anthony's Hospital, Rock Island, Ill.; chief examiner and medical director of the Home Forum; died at his home in Moline, May 11, from heart disease, aged 73.

Elisha Leach, M.D. University of Michigan, Ann Arbor, 1854; city physician of Detroit in 1870 and a member of the health board in 1887; for twenty years a practitioner of that city and later a resident of Galveston and Corpus Christi, Tex.; for many years a member of the American Medical Association; died in the Spohn Sanitarium, Corpus Christi, Dec. 2, 1910, from acute dysentery, aged 80.

Daniel J. Langton, M.D. Jefferson Medical College, 1880; of Shenandoah, Pa.; a member of the American Medical Association; a trustee of the State Hospital for Injured Persons of the Anthracite Coal Regions of Pennsylvania, Fountain Springs; coroner of Schuylkill County in 1880; a member of the board of health of Shenandoah; died in Atlantic City, N. J., May 13, from pneumonia, aged 53.

William Chalmers Baird, M.D. Medico-Chirurgical College of Philadelphia, 1896; a member of the American Medical Association and American Association of Life Insurance Examining Surgeons; formerly of McKeesport, Pa., but forced in 1905 to go to Colorado on account of tuberculosis; died at his home in Colorado Springs, May 8, two days after an operation for disease of the bladder, aged 39.

William Richard Cunningham Latson, M.D. Eclectic Medical College of the city of New York, 1904; of New York City; editor of a magazine known as *Health Culture*; was found dead in his apartment in New York City, May 11, from the effects of a gunshot wound of the head, believed to have been self-inflicted in accordance with a suicide pact, aged 40.

Benjamin F. Keables, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1852; a member of the Iowa State Medical Society; surgeon of the Third Iowa Volunteer Infantry during the Civil War; representative in the state legislature in 1872 to 1874; for fifty-eight years a practitioner of Pella; died at his home, May 9, from cystitis, aged 82.

Henry Clay Hendrick, M.D. University of Michigan, Ann Arbor, 1853; a member of the American Medical Association; surgeon of the 157th New York Volunteer Infantry and later division surgeon during the Civil War; a member of the Cortland County (N. Y.) Board of Pensions; died at his home in McGraw, May 5, aged 83.

Cumberland George Herndon, M.D. University of Virginia, Charlottesville, 1873; Medical Inspector U. S. Navy, retired in 1905 for incapacity resulting from an incident of service, after thirteen years and four months sea service, and fifteen years and ten months shore duty; died at his home in Washington, D. C., May 6, aged 60.

William Henry Harrison, M.D., New York University, New York City, 1885; formerly of Easton, Pa.; professor of materia medica and obstetrics, and instructor in diseases of the mind and nervous system in Flint Medical College, New Orleans; died in that city, May 8, aged 58.

Robert Harris Hargrove, M.D. Vanderbilt University, Nashville, 1881; Bellevue Hospital Medical School, 1882; of Alpine; a member of the Medical Association of the State of Alabama; died at the home of his sister near West Harpeth, Tenn., May 8, from cerebral hemorrhage, aged 50.

William Russell Dunham, M.D. Harvard Medical School, 1865; a member of the Cheshire County (N. H.) Medical Society, Connecticut River Medical Society and New Hampshire Association of Military Surgeons; died at his home in Keene, May 8, from heart disease, aged 77.

Samuel Stuart Hackwell, M.D. Detroit College of Medicine, 1905; of Blaney, Mich.; a member of the Michigan State Medical Society; school examiner of Schoolcraft County for several years; died at the University Hospital, Chicago, May 1, from tumor of the brain, aged 32.

Alexander Miller Stout, M.D. Georgetown University, Washington, D. C., 1880; a member of the American Medical Association and superintendent of the Chicago City Hospital for Contagious Diseases; died in that institution, May 20, from cerebral hemorrhage, aged 57.

Norman F. Hill, M.D. University of Maryland, Baltimore, 1882; of Baltimore; surgeon-in-chief of the Baltimore City Passenger Railway Company for twenty-seven years; died in Mercy Hospital in that city, May 12, after an operation for cholelithiasis, aged 63.

Edwin Neville Dougherty, M.D. New York University, New York City, 1896; for several years tenement house inspector under the department of health of New York City; died at his home at Waterbury, Conn., May 8, from nephritis, aged 38.

Lester Bomar Bell, M.D. Rush Medical College, 1906; health officer of Cushing, Wis., and proprietor of a private hospital in that place; died at his home, May 10, from injuries received in an automobile accident twelve hours before, aged 27.

Lester Augustus Elster, M.D. Bellevue Hospital Medical College, 1867; a veteran of the Civil War; for thirteen years chief of staff of the Mendocino State Hospital, Eureka, Cal.; died at his home in Alameda, Cal., May 1, aged 68.

William C. Coburn, M.D. Philadelphia University of Medicine and Surgery, 1886; for many years a practitioner of Washburn, Wis.; died at his home at Diamond Lake, April 28, from cerebral hemorrhage, aged about 70.

Reuben Alexander Wall, M.D. University of Maryland, Baltimore, 1904; for several years medical examiner for the Baltimore and Ohio Railroad at Fremont, W. Va.; died at his home in Baltimore, May 4, aged 34.

John Quarles Sutton, M.D. Vanderbilt University, Nashville, Tenn., 1887; a member of the Tennessee State Medical Association; died at his home in Chattanooga, May 12, from carcinoma of the stomach, aged 48.

Paul DeWitt Hale, M.D. Medical College of Ohio, Cincinnati, 1901; was found unconscious in his office in Dayton, O., May 9, and died from heart disease, a few moments later in the Miami Valley Hospital, aged 33.

Coleman E. Riggan, M.D. Memphis (Tenn.) Hospital Medical College, 1896; a member of the American Medical Association; died at his home in Monroe, Okla., April 17, from lobar pneumonia, aged 57.

Otero Crandall Reynolds, M.D. University of Louisville (Ky.), 1878; a member of the Nebraska State Medical Association; died at his home in Lincoln, May 16, from cerebral hemorrhage, aged 53.

Edward Haddock Pollack, Jr., M.D., New York University, New York City, 1897; a member of the Medical Society of the County of Kings; died at his home in Brooklyn, Jan. 17, aged 35.

Morris Beckstead, M.D. McGill University, Montreal, 1878; for twenty-five years a practitioner of Lisbon, N. Y.; died at his home in that place, May 7, from nervous breakdown, aged 56.

Wilson Levi Hawkes, M.D. Medical School of Maine, Brunswick, 1872; a member of the Maine Medical Association; died at his home in York Harbor, May 4, from nephritis, aged 63.

Austin D. Roth, M.D., Drake University, Des Moines, Ia., 1908; of Marshalltown, Ia.; died at St. Thomas' Hospital, Marshalltown, May 8, from tuberculous meningitis, aged 33.

Emery Miller, M.D. Jefferson Medical College, 1894; a member of the Altoona (Pa.) Medical Society; died at his home in Duncansville, May 10, from acute pancreatitis, aged 41.

Aaron Busby (license, Ohio, years of practice, 1896); for twenty-five years a practitioner of Stark County, O.; died at his home in Osnaburg, May 9, of tuberculosis, aged 67.

John Ross Trott, M.D. Missouri Medical College, St. Louis, 1857; for many years a resident of Virden, Ill.; died in San Diego, Cal., from cerebral hemorrhage, May 3.

Leonidas C. Taylor, M.D. Jefferson Medical College, 1848; died at the home of his son in Oxford, N. C., April 23, from the effects of a fall two days before, aged 87.

Andreas Quisling, M.D., State University of Iowa, College of Homeopathic Medicine, Iowa City, 1893; died at his home in Madison, Wis., May 6, aged 52.

Adam Lutheran Jackson, M.D. Columbus (O.) Medical College, 1878; died at his home in Columbus, May 7, from cerebral hemorrhage, aged 61.

Herbert Stanton Darling, M.D. Jefferson Medical College, 1883; died at his home in Fredericktown, O., March 16, from cardiac asthma, aged 49.

Henry A. Jones, M.D. Hospital College of Medicine, Louisville, Ky., 1903; died at his home in Louisville, May 10, from pneumonia, aged 31.

Jacob W. Myers, M.D. Bennett Medical College, Chicago, 1881; died at his home in Goshen, Ind., May 6, from nephritis, aged 70.

Andrew J. Bevan, M.D. University of Pennsylvania, Philadelphia, 1886; died at his home in Bryn Mawr, Pa., May 9, aged 62.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

CHICHESTER'S DIAMOND BRAND PILLS

W. A. Puckner and L. E. Warren

A preparation known as "Chichester's Diamond Brand Pills" is, and has been for years, extensively advertised in newspapers, drug journals, etc. While in these advertisements nothing is said regarding the therapeutic uses of the preparation, the public to a large extent, knows it and buys it as an abortifacient remedy. This is shown by letters which THE JOURNAL receives of which the following is an example:

If it is possible would you kindly give me the ingredients of Chichester's Diamond Brand Pills? They are sold to produce abortion and are guaranteed under the Food and Drugs Act, the serial number being 1867.

A trade package, "large size," of Chichester's Diamond Brand Pills was purchased on the open market and examined with especial reference to the presence of commonly reputed abortifacient drugs. The pills were put up in a small tin box, "elegantly and artistically decorated in red, black and gold,"—"air, dust and moisture-proof, with hinged lid," on which is printed:

"Distributed by Chichester Chemical Co."

The package contained twenty pills and considerable advertising matter, wrappings, etc. Attention is called to some of the statements in a booklet contained in the package entitled:

"Relief for Ladies. Directions for Use of Chichester's Diamond Brand Pills."
"To Our Old Customers,
"Change of Name.

"Our Remedy was formerly called 'Chichester's English Pennyroyal Pills,' but on account of unscrupulous imitations offered under the name of 'pennyroyal' our remedy will hereafter be known only as 'Chichester's Diamond Brand Pills.'"

"Treatment may be begun at any time, although in some instances the pills are more effective if taken about the regular time for the menstrual flow. As a rule, however, it is found that more satisfactory results are secured by beginning treatment at once and continuing it until the pills give relief."

Only one small page each is devoted to "Amenorrhea," "Dysmenorrhea" and "Directions," the remainder is taken up with testimonials, cautions to "Take no other," "Refuse all others," "Beware of imitations," etc.

EXAMINATION

The aggregate weight of the pills contained in the package amounted to 8.7963 gm., or about 0.44 gm. for each pill. The pills, when deprived of their coatings, weigh about 0.2600 gm. (4 grains) each, this coating constituting nearly half their original weight. The coatings consist essentially of calcium carbonate, although a small quantity of sugar is present.

By the usual tests the presence of some preparation of aloes and of ferrous sulphate was demonstrated. Tests for the presence of black hellebore, tansy, pennyroyal, savin and certain other reputed abortifacients resulted, in each case, negatively. Ergot or its preparations could not be detected.

BEFORE AFTER

Photographic reproductions (reduced) of advertisements of Chichester Pills before and after the passage of the Food and Drugs Act. The Association chemists found no pennyroyal in these pills and under the pure food law it would be illegal to call them "Pennyroyal Pills." Was this responsible for the change in name?

While the identification of mixed plant extracts, especially those which contain constituents not readily isolated, is a matter of great difficulty and is often impossible, it would appear, from the examination, that the chief medicinal constituents of the pills are aloes and iron sulphate, the latter ingredient being present to the extent of about ½ grain to each pill. The statement of the manufacturer that the pills are sugar coated is scarcely warranted by the facts. The change of name from "Chichester's English Pennyroyal Pills" to one in which the word "*Pennyroyal*" does not occur is significant in view of the fact that no pennyroyal could be found in the pills. Under the Food and Drugs Act it would be illegal to sell as "Pennyroyal Pills," pills that did not contain that constituent.

A package of these pills retails for $2, or at the rate of 10 cents for each pill. An examination of the price lists of several large manufacturers of pharmaceuticals reveals that pills very nearly corresponding to the above may be bought in quantities for about 22 cents a hundred. The profits in retailing at $10 per hundred ought to be satisfying even to the most avaricious.

EDITORIAL NOTE: The above calls attention to a vicious state of affairs—the selling to the public of drugs of reputed abortifacient properties. We believe there is not a state in the Union which has not adopted laws against it, but in spite of this, these preparations, in thin disguises, are shamelessly advertised in newspapers and as shamelessly and boldly sold over the counters of many drug stores. While it is true that many of

these nostrums are merely fraudulent, rather than dangerous, yet not a few contain potent and—for the purpose for which sold—villainous drugs.

As shown by our chemists, Chichester's Diamond Brand Pills seem to be simply the old aloes and sulphate of iron pills with slight modification. While these pills were sold originally as "pennyroyal" pills, the Food and Drugs Act, which forbids lying on labels, has apparently compelled the manufacturers to omit the word "pennyroyal."

Since it is well known that there is no drug or combination of drugs which, taken by the mouth, will with certainty produce abortion, it is not probable, to judge from the constituents found in these pills, that they would produce the result desired by the purchaser. Nevertheless, the use of this nostrum is pernicious and in the interest of public health and public morals its sale, and the sale of similar nostrums, should be prohibited.

THE LIMITATIONS OF TABLET-MAKING

To the Editor:—From time to time I notice in the columns of THE JOURNAL, assays of the tablet and pill products of different manufacturers and as a rule they are found wanting in label-stated quantity of ingredients; I think that I am in a position to throw some light on this subject and to relieve some of our reputable manufacturers from the suspicion of intentional fraud. In the first place, let me say that many substances are put in tablet and pill form which never should be exhibited in this manner as they are of a volatile nature and are bound to deteriorate.

A number of years ago, I was foreman of manufacturing in the pill and allied departments of Parke, Davis & Co. and when I was given charge, I was instructed to spare no expense nor trouble to make each preparation which left my department, the best of its kind, both in the exactness of its compounding and in pharmaceutical elegance. Shortly after assuming charge I was "called on the carpet" and the "riot act" was read to me in very plain and unmistakable tones; someone had made a comparative analysis of some of the products of a number of leading manufacturers and ours was away down the list. I did not have much to say but went back to my office to think.

Up to that time, no book account had been kept with each formula as issued; a formula was written for a certain number of pills and the ingredients were most carefully weighed and the weights checked. The ingredients were then carefully mixed and the total mass was made up to a certain specified weight and this was divided into a specified number of pills each having a specified weight. If a pound, or 7,000 grs., of pill mass was to be cut into ¼ gr. pills, manifestly, there would be 28,000 pills as the result and it seems that it had always been assumed as an established fact that it must be so. In cutting these pills sixteen of them should weigh 4 grains (a large number being taken to obviate individual variation) and at frequent intervals the forewoman would go from table to table making these weights and I may say that the perfect exactness of division was often a wonder to me.

After I had thought over my troubles a while, I asked myself whether this thing really worked out in practice as well as in theory; so I went to the dry-room and called out a formula of ¼ gr. morphin sulphate pills which had just been cut and which should number 70,000. On counting an ounce and weighing the remainder, I found that instead of 70,000, I had 110,000. Investigation of other formulas showed a like result, the variation being greater in the smaller pills; analyses of goods on hand showed them all deficient and, worst of all, no one could even suggest an explanation.

I immediately made up one pound of "dummy" mass and gave to our most expert girl to cut into ¼ gr. pills; I watched every move, myself, and weighed repeated lots of thirty-two pills each to be certain that each weighed exactly ¼ gr.; when the result was weighed and counted, I had some 34,000 instead of 28,000 pills. This thing went on day after day until the entire department was upset; finally, after studying this matter for days, I was sitting by one of the tables watching the girl work and I noticed that from time to time she would pick up a small camel's-hair brush and dipping it in a pile of terra alba on her table would, very lightly, brush over the strips and partly cut pills; I at once asked her how much of this material was required to cut a pound of mass; she replied, "hardly any." By weighing the supply before using and again after a pound had been cut, it was found that ½ ounce of this powder was consumed in cutting 1 pound of mass into ¼ gr. pills. This meant 218 grains, which divided into ¼ gr. pills, made an addition to the written formula of 872 pills and we had found the leak which had been going on for years. After this, each formula for small pills was made up ½ ounce short to the pound and an allowance of dusting powder of an equal amount was made for each pound and we found that our formulas came out within a very few pills of the calculated amount. The wider variations which had been discovered we found to be due to the careless use of powder by some of the girls, who would use their dusting powder in a very lavish manner.

I have explained this incident at length as illustrative of the troubles against which the most honest manufacturers will occasionally run and let me say, to the credit of the firm mentioned, that, instantly, on the discovery of this fault in their goods, all orders for small pills were cancelled until such a time as they could be filled with genuine goods and that all the goods on hand were thrown out and as much as possible of outstanding stock in the hands of wholesale houses was called in.

I notice in a recent issue of THE JOURNAL an account[1] of analysis of tablets containing phenol and that all were deficient—and why should they not be? It is not good sense to put volatile substances into pills and tablets and expect the full amount to remain, especially in pills, which have to be dried, somewhat, before coating and must of necessity lose a great part of all volatile ingredients before being coated.

E. B. PATTERSON, M.D., Sandpoint, Ida.

EDITORIAL NOTE: Dr. Patterson's letter will be read with interest by all who believe in scientific prescribing. It bears out exactly what has been said several times in THE JOURNAL. We have never accused "reputable manufacturers" of intentionally defrauding their customers by failing to put into their tablets the advertised ingredients. We have more than once stated that the discrepancies which have been found between the real composition of tablets and their advertised composition is due to attempts to achieve what is pharmaceutically impossible rather than to any studied attempt to defraud. Dr. Patterson says: "Many substances are put in tablet and pill form which never should be exhibited in this manner;" in expressing an opinion on the same point THE JOURNAL stated editorially as recently as May 6 of this year: "It is pharmaceutically impossible—or at least commercially impracticable—to manufacture, in tablet form, some of the combinations that are listed in the manufacturer's catalogues." The criticism that THE JOURNAL makes against manufacturers in this matter is, that in spite of the fact that the Association chemists have repeatedly shown that it is impossible to put up certain drug combinations in tablet form, the manufacturers persist in marketing such tablets. Dr. Patterson is eminently correct when he says: "It is not good sense to put volatile substances into pills and tablets and expect the full amount to remain." Yet this lack of sense is shown by most of the large pharmaceutical houses.

It is pleasing to learn that the firm for which Dr. Patterson worked cancelled its orders and called in out-standing stock as soon as it discovered that its tablets were not true to label. This, as our correspondent says, was some years ago. Apparently a different attitude is taken to-day. This same firm—with several others—when shown over two years ago that its bismuth, opium and phenol tablets were not what they were claimed to be, made no effort, apparently, either to withdraw its product, cease manufacturing it, or even modify the labels to conform to the facts. It was for this reason that this manufacturer—with others—was criticized by THE JOURNAL.

In thinking over the details of tablet making, described by Dr. Patterson, one is led far afield. Many of the complex tablet mixtures on the market to-day put out by various firms have but a small sale. They are only made to meet competition between manufacturers. In the hundreds of combinations that exist, one wonders how many really contain the true proportions of the drugs ascribed to them and can therefore be prescribed with any degree of scientific accuracy. All of which leads back to the proposition repeatedly advanced in these pages: Simplicity in prescribing is essential to scientific accuracy.

1. Puckner, W. A., and Hilpert, W. S.: Tablets of Bismuth, Opium and Phenol, THE JOURNAL A. M. A., May 6, 1911.

Correspondence

Reprints and Journals Wanted

To the Editor:—The Medical Library Association is particularly anxious to find the following reprints and journals:

Any numbers of the *American Journal of Medical Sciences* previous to 1882 and after 1899.
Medical and Surgical Reports of the Boston City Hospital, Vols. VII, VIII, XVI and later.
Proceedings of the Philadelphia Pathological Society, Vol. XII, except Nos. 1 and 3, Vol. XIII, except Nos. 2 and 4.
Pearce, R. M.: The General Infections and Complications and Scarlet Fever, 1898.
Harrington, Charles, and Pearce, R. M.: Formaldehyd as a Practical Disinfectant and an Aid in the Practice of Surgery, 1898.
Pearce, R. M.: Scarlet Fever, Its Bacteriology, Gross and Minute Anatomy, 1899.
Harrington, Charles, and Pearce, R. M.: Proprietary Domestic Disinfectants, a Bacteriological Study, 1899.
Councilman, W. T., Mallory, F. B., and Pearce, R. M.: A Study of the Bacteriology and Pathology of 220 Fatal Cases of Diphtheria, 1900.
Musser, J. H., Gwyn, N., and Pearce, R. M.: Abscess of the Brain Due to a Streptothrix.

JOHN RUHRÄH, Treasurer, Medical Library Association.
1211 Cathedral Street, Baltimore.

The Contaminated Fly

To the Editor:—While we all realize the part played by common house-flies in carrying infection, perhaps we have not fully understood their capacity to act as incubators and storehouses for specific bacilli. I practice in a healthy town of 3,000 inhabitants where cases of typhoid are not numerous; they always appear sporadically—never to the extent of an epidemic. These cases usually appear in neighborhoods in which the drinking-water is obtained from rather shallow wells, and for this reason the appearance of an occasional case of typhoid fever has always been attributed to a contaminated water-supply. These neighborhoods usually have many flies, and no systematic effort is made to exclude them from the houses. During the latter part of the summer of 1910 a man died from typhoid fever in one of the localities I speak of. A visitor, who called to see the sick man before he died, afterward told me that she saw a bed-pan containing one of the patient's typhoid stools in the back yard with hundreds of flies about it. Every one of those flies would probably go away loaded with typhoid bacilli. There are always enough flies that find some warm crack or crevice in which to hibernate through the winter to renew the supply the next spring. Many of them must go into winter quarters loaded with bacilli; and the favorable surroundings that would enable the fly to live over winter would enable the bacilli to retain their vitality also. In communities like ours where health conditions are usually good my observations have made me believe that the fly is to be regarded with far more suspicion than the water-supply.

WILLIAM M. GREGORY, Berea, Ohio.

Magnesium Sulphate Treatment of Dysentery

To the Editor:—On the first appearance of mucus and blood in the stools the patient with dysentery should be put to bed and kept there till the stools are free from blood and mucus and the patient free from pain. Liquid diet should be given and the patient should not be allowed to sit up. When the patent is first put to bed he should be given an enema of a quart of warm water that has been boiled, to which two heaping tablespoonfuls of magnesium sulphate have been added and thoroughly dissolved. This should be introduced into the lower colon by means of a fountain syringe with the regular hard rubber rectal tip that comes with the syringe; a rectal or colon tube should never be used, for it wounds the inflamed surfaces. The enema should be repeated every four hours until the actions are free from blood and mucus and the patient free from pain. The patient should be urged to retain the enema each time as long as possible before expelling it, for the longer it is retained the better, as it reduces pain and inflammation. In addition the patient should take the following:

℞	gm. or c.c.		
Magnesium sulphate	45	or	ʒiss
Aromatic sulphuric acid	15		ʒss
Deodorized tincture of opium	8		ʒii
Distilled water to make	180		ʒvi

M. Shake and take two teaspoonfuls in water every two hours till actions are free from blood and mucus and patient free from pain, then less frequently, as indicated; but give an occasional dose for twenty-four to forty-eight hours.

For children the enema should be the same as for adults and the syringe and tip the same. The child should be placed on its back in its mother's or a nurse's lap with newspapers under it so that the water will flow into a basin when the bowel gets full. The tip should not be removed, but the water should be allowed to pass out by it when the child strains, the water flowing into the colon all the while till all the quart is used, and then repeated as in the adult. A child two or three years old should be given 10 or 15 grains of magnesium sulphate, half a drop to two drops tincture opium and two or three drops aromatic sulphuric acid every two hours till feces are free from blood and mucus and the child free from pain.

Patients should never be allowed to sit up until all symptoms have disappeared.

This treatment has given me good and prompt results.

A. A. BARGE, M.D., Newnan, Ga.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SULPHUR REACTION IN THE URINE OF CANCER PATIENTS

To the Editor:—In THE JOURNAL, May 6, page 1371, is an abstract of an article by Salomon and Saxl in the *Wiener Klinische Wochenschrift*, 1911, No. 13, page 449. Please give me the technic of this sulphur reaction in the urine of cancer patients.

W. D. ROBBINS, Chicago Heights, Ill.

ANSWER.—For this reaction, dilute 150 c.c. of urine with 100 c.c. distilled water (albuminous urine must first be boiled, treated with a small quantity of acetic acid and carefully filtered); then add 150 c.c. Salkowsky's barium solution (a mixture of 2 parts barium hydroxid solution, saturated at room temperature, with 1 part barium chlorid solution saturated at room temperature). Filter and to the clear filtrate add more reagent to insure complete precipitation. Then the ethereal sulphates are removed from the entire filtrate, by adding 30 c.c. hydrochloric acid (sp. gr. 1.12), transferring to a 500 c.c. flask, covering with a small funnel and heated to boiling on an asbestos mat, with a small flame for an hour. The flask is then covered with a beaker and allowed to stand on a water bath till the supernatant liquid is clear (requiring from four to twenty-four hours). Now filter twice through a double "barium filter," small; wash the flask with sodium hydroxid solution and distilled water; boil again, using same precautions as above, and filter through a double "barium filter." (If there is still more precipitate formed, place the flask on the water bath again.) Now treat 200 c.c. of the filtrate with 3 c.c. strong hydrogen peroxid solution (perhydrol Merck) and boil fifteen minutes, covering again with the funnel, in the same flask. Now the liquid is poured into a sedimentation glass and then observed in from one-half to four hours. In cases of carcinoma a decided sediment will be observed while a normal urine may show a trace of such a sediment; as a rule normal urine does not show a sediment in four hours—but some time later a trace of ethereal sulphate not properly removed as above may show. The sediment obtained in case of carcinoma is usually somewhat colored, but this color can be removed by alcohol-ether.

LITERATURE ON RATTLESNAKE POISONING

To the Editor:—Please give me literature on rattlesnake poisoning, particularly on the pathology and treatment.

J. M. WALSH, Fort Pierre, S. D.

ANSWER.—The following references may be consulted:

Rogers, L.: Snake Bite Treated by Incision and Application of Permanganate of Potash, *Indian Med. Gaz.*, October, 1905; abstr. in THE JOURNAL, Dec. 9, 1905, p. 1830.
Ferguson, A. D.: Adrenalin Chlorid in the Treatment of Rattlesnake Bite, *Texas Med. News*, November, 1906.
Haw, W. H.: Two Cases of Snake-Bite with Suggestion for Treatment, *Lancet*, London, April 27, 1907; abstr. in THE JOURNAL, May 25, 1907, p. 1819.
Baier, F. C.: Rattlesnake Bite, with Recovery, *Northwest Lancet*, June 15, 1907.
Braddock, C. S.: Treatment of Snake Bites as Seen in the Jungle, *New York Med. Jour.*, Nov. 8, 1907; abstr. in THE JOURNAL, Nov. 23, 1907, p. 1803.

Willson, P.: Snake Poisoning in the United States, *Arch. Int. Med.*, June, 1908; discussed editorially in THE JOURNAL, July 11, 1908, p. 132.
White, C. S.: Case of Poisoning from the Bite of a Rattlesnake, THE JOURNAL, May 8, 1909.
Lyon, W. C.: Venomous Snakes of the United States, *Mil. Surg.*, October, 1910.

AVERAGE NUMBER OF TUBERCLE BACILLI DISCHARGED

To the Editor:—What is the number of tubercle bacilli which the average patient with a well-developed tuberculosis is supposed to discharge during the twenty-four hours? Please refer me to the original articles from which you have secured these figures.
D. V. S.

ANSWER.—Nuttall (in the *Bulletin of the Johns Hopkins Hospital*, May-June, 1891) estimated the number of tubercle bacilli in the sputum of three patients in the moderately advanced stage by a special technic fully described. He counted the number of tubercle bacilli in a drop obtained from sputum which had been homogenized. In the first case sixteen counts were made from January 10 to March 1; the quantity of sputum varied from 43 c.c. to 73 c.c., the number of bacilli present varying from 4,312,581,000 down to 1,695,184,000. In the second case, in which the sputum was very much less, varying in quantity from 1 to 10 c.c., the number of bacilli varied from 275,000 to 283,457,000. In the third case, the quantity of sputum varied from 10 to 60 c.c. and the number of bacilli varied from 12,996,000 to 70,474,000. During the observations the patients improved and it is interesting to note that the number of tubercle bacilli decreased. Many of the bacilli were unquestionably dead.

ANAPHYLAXIS AND SERUM TREATMENT

To the Editor:—Please answer the following questions:
1. May a person in whom horse-serum has been used develop symptoms of anaphylaxis if he is injected with the serum of an animal of a different species?
2. Can antitoxic globulin (antidiphtheric globulin) be used without fear of anaphylaxis?
E. WISLOCKI, San José, Cal.

ANSWER.—1. No. The substance producing the symptoms of anaphylaxis has been shown to be specific and therefore will not cause the reaction if an albumin, different from that originally used, is injected.

2. Anaphylactic symptoms are not so likely to develop after the use of antidiphtheric globulin, because less protein is used. So far as we know, however, there is no reason to suppose that anaphylaxis may not occur.

SOURCES OF WATER-SUPPLIES

To the Editor:—Please tell me if you know of any list published that gives the sources of the water-supplies of the principal cities and towns of the United States and Canada.
MORGAN WALCOTT, Tompkinsville, N. Y.

ANSWER.—You will find much information in "Clean Water and How to Get It," by Allen Hazen, published by John Wiley and Son. So far as we are aware, no complete list has been published. The purification of water for domestic use in America was discussed in the *Transactions of the American Society of Civil Engineers*, 1905, liv, Part D.

MEDICOLEGAL ASPECTS OF A FATAL GUNSHOT WOUND

To the Editor:—As a matter of interest from its medicolegal aspect, I would invite an expression of opinion on the following case of homicide by gunshot:

I was called to examine the body of a miner found dead in his cabin, and found the following external injuries: a bullet wound an inch from the right scapular border, at the level of the fourth rib, and another at the lower angle of the left anterior lumbar area. Both had the appearance of entrance wounds and were clean cut without eversion of tissue. There was no indication of scorching, nor were powder grains found on the clothing over the wounds after careful examination. The body was found lying on the back, crosswise of a bed, and underneath it, near the wound in the back, was found a 32-caliber revolver bullet, later identified as being from the gun proved to have been used in the case. Autopsy findings showed the course of the bullet to be as follows: the lower border of the fourth rib was struck, showing inversion of fragments; the bullet then punctured the upper lobe of right lung and passed through the lower lobe of the left lung and the small intestine at its upper portion. Death was due to excessive pulmonary hemorrhage.

Evidence at the coroner's inquest showed only one shot to have been fired, which was heard by several people. I testified that in my opinion the bullet entered the back and could have taken the course described, by its deflection downward from contact with the lower border of the fourth rib, and emerged low down in the abdominal wall on the left side. The guilty person later, after being arrested, confessed to having fired the shot, but made a plea of self-defense on the grounds that the deceased had him "down on his back and was going after a knife," and that he (the accused) "shot him in the belly."

The point in question is that the plea of self-defense hinges on my testimony that the entrance wound was at the back, and that the course of the bullet, as shown at autopsy, was not possible if fired from in front
H. C. M.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 20, 1911.

Beatty, Theodore B., C.S., entered into contract for duty at Fort Douglas, Utah.

Bushnell, George E., lieut.-col., detailed to represent the Army at the seventh international congress against tuberculosis, to be held at Rome, Italy, September 24 to 30, 1911.

Hill, Eben C., lieut., granted six months' leave of absence on account of sickness.

Reynolds, F. P., Straub, Paul F., Munson, Edward L., majors, and Thomason, Henry D., captain, are detailed as instructors at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Reynolds, Charles R., major, is detailed for duty at the encampment, Ohio National Guard, Coshocton, in the event that Major Straub shall not return to this city prior to June 24, 1911.

Graham, George D., D.S., orders relieving him from duty at Fort Shafter, H. T., and directing him to proceed to the Philippine Islands, is revoked.

Wolven, F. H., D.S., left Vancouver Barracks, Wash., for duty at posts in Alaska.

Maus, Louis M., colonel, left headquarters, department of the lakes, Chicago, Ill., on twelve days' leave of absence.

Purnell, Harry S., captain, granted ten days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended May 20, 1911.

Boyd, J. C., medical director, detached from duty as a member of the naval retiring board, Washington, D. C., and ordered home.

Heneberger, L. G., medical director, detached from command of the Naval Medical School Hospital, Washington, D. C., and ordered to duty as a member of the naval retiring board, Washington, D. C.

Bertolette, D. N., medical director, detached from duty as president of the naval examining board and board of medical examiners and ordered to command the Naval Medical School Hospital, Washington, D. C.

Gardner, J. E., medical inspector, detached from the marine recruiting station, Boston, and ordered to duty as member of the naval examining board and board of medical examiners, Washington, D. C.

Payne, J. H., A. A. surgeon, ordered to the marine recruiting station, Boston.

Devalin, C. M., surgeon, detached from the Navy recruiting station, Detroit, and ordered to the navy recruiting station, New York.

Thompson, E., surgeon, detached from the Navy yard, Charleston, S. C., and ordered to duty in connection with fitting out the *Maine* and to duty on board that vessel when placed in commission.

Koltes, F. X., P. A. surgeon, ordered to the Navy recruiting station, Detroit.

Stuart, M. A., P. A. surgeon, detached from duty in the Panama Canal Zone and ordered to the Navy yard, Charleston, S. C.

Rossiter, P. S., P. A. surgeon, detached from the *Independence* and ordered to command the naval hospital, Mare Island, Cal.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 17, 1911.

Brooks, S. D., surgeon, granted seven days' leave of absence from May 17, 1911.

White, J. H., surgeon, detailed to represent the service at the annual meeting of the American Society of Tropical Medicine to be held at New Orleans, May 18-19, 1911.

Wertenbaker, C. P., surgeon, detailed to represent the service at the annual meeting of the Association of Surgeons of the Southern Railway Company to be held at Charlotte, N. C., May 29-31, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from April 24, 1911, on account of sickness.

Lavinder, C. H., P. A. surgeon, relieved from duty at the hygienic laboratory and directed to proceed to Savannah, Ga., and assume command of the service.

McMullan, John, P. A. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Baltimore and report to Surgeon W. P. McIntosh for duty in the medical examination of arriving aliens. Granted twenty-one days' leave of absence from May 9, 1911, on account of sickness.

Willie, C. W., P. A. surgeon, detailed to attend meeting of the National Dental Association at Cleveland, Ohio, May 10, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to Missoula, Mont., via Helena, for the investigation of Rocky Mountain fever.

Creel, R. H., P. A. surgeon, granted thirty days' leave of absence from June 1, 1911.

Jackson, J. M., Jr., A. A. surgeon, granted ten days' leave of absence from May 12, 1911.

Miranda, R. U. Lange, A. A. surgeon, granted six months' leave of absence from June 3, 1911, without pay.

Ransom, Stacey A., A. A. surgeon, granted thirty days' leave of absence from April 1, 1911, with pay, and six months, without pay, from May 1, 1911.

Robinson, H. D., A. A. surgeon, granted nine days' leave of absence from May 17, 1911.

Board of medical officers convened to meet at Stapleton, N. Y., May 17, 1911, for the examination of an officer of the Revenue-Cutter Service, to determine his fitness for promotion. Detail for the board: Surgeon H. W. Austin, chairman; Passed Assistant-Surgeon W. A. Korn, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

DIVISION OF FEES

Report of the Committee of the Columbus Academy of Medicine

The committee appointed by the Academy of Medicine to investigate the matter of alleged division of fees between physicians and specialists, reports as follows:

1. Careful investigation shows conclusively that there has been relatively very little of this division of fees in Columbus, and that the accounts of such division have been grossly exaggerated in the public prints. We realize, however, that such a practice, even by a small minority, may in time corrupt the whole body of the profession. The truth does not justify the wide aspersion which has been cast on the profession of this city.

2. Secret division of fees between specialists and general practitioners constitutes clearly a grave breach of the ethics of our profession. Its inevitable tendency is to lead thoughtless or unscrupulous physicians to refer their patients to specialists who offer the largest commission, rather than to those who render the best service. Such practice is admittedly unprofessional, and should be condemned in the strongest terms.

3. The causes of this condition are to be found largely in the great overcrowding of the profession, and in the multiplicity of specialists, and the remedy to reach this part of the evil is to diminish largely the number of physicians by increasing the requirements for admission to the profession, and to reduce the number of specialists by such legislation as will require a specialist, before posing as such, to pass special examinations to demonstrate his fitness and qualifications for the specialty which he proposes to enter. In the meantime, and while these reforms are pending, the evil must be firmly met by exposure of those who resort to these dishonest practices, by their expulsion from college organizations and from our medical societies, and by their exclusion from our hospitals.

4. The general practitioner has for several generations been in the habit of charging per visit instead of for services rendered. The profession of medicine is by its nature a conservative one, and changes its methods slowly. As one of the results, our system of charging has remained substantially the same; but this system is clearly unjust both to the physician and to his patients, and is a potent factor in the production of the division of fees. This also accounts very largely for the low estimate which the physician has seemed to place on the value of his services, and their estimate in the eyes of the laity. The patient has thus failed entirely to appreciate the particular service which his physician renders him in furnishing the specialist with the history and symptoms of the case, and he is therefore not prepared to receive a separate and appropriate charge for that service.

It is the duty of the Academy of Medicine to educate the unthinking public to appreciation of the fact that it takes, for illustration, more skill and a finer quality of judgment to carry a patient through months of critical expectancy to a successful accouchement than to amputate a leg, and that the physician should be paid accordingly. Until physicians demand fees in some proportion to services rendered, and without fixed rates, they will never be paid for what they do. "The dead-level fee—the same charge for everybody, for all kinds of cases—should have no place in medicine."

5. Until the public is so educated, however, we recommend as wise and proper in many instances, and most satisfactory to all concerned, the joint rendering of bills by each consultant in cases in which joint services have been rendered by the attending physician and specialist, with the distinct understanding that the factor of the former in these joint bills does not constitute a part of his regular family attendance, but is to be settled as a special service, so that both he and the specialist will be fairly and honorably remunerated for the value of services rendered. "The laborer is worthy of his hire," and should ask and receive neither more nor less than he has justly earned.

6. We commend the attitude taken by the Starling-Ohio Medical College in this matter, and we recommend the adoption of such by-laws by this academy as will render secret fee-splitting, no matter by what subterfuge, a cause for expulsion. We also recommend that officials in charge of our local hospitals adopt such rules as will debar from attendance at their hospitals, any physician or specialist found guilty of this offence.

HEALTH LEGISLATION IN ARKANSAS

The public health bill prepared by the Arkansas Medical Society has passed both houses of the legislature and is ready for the signature of the governor. This bill creates a department of health consisting of an advisory board of seven members and a commissioner of health appointed by the board. The members of the advisory board are to be appointed from the three schools of medicine. The commissioner is to receive a salary of $2,500 per annum. Members of the board are to receive a per-diem allowance of $5.00 and actual traveling expenses.

The board is given the power to make all necessary rules and regulations for the protection of the health of the people, which rules and regulations when promulgated are to have the force of statutory enactments. A hygienic laboratory and a bureau of vital statistics are also provided for. The model vital statistics bill of the American Medical Association is incorporated in the bill.

A bill has also passed both houses, authorizing the state to take over the two medical schools in Little Rock, namely, the Medical College of the University of Arkansas and the College of Physicians and Surgeons. These schools have agreed to turn over to the board of trustees of the State University all of their assets. The trustees of the State University will select a new faculty.

The passage of these two bills insures a single medical school of high grade for Arkansas and also establishes a health department capable of great service to the people. The adoption of the model bill for vital statistics as a part of the public health bill gives Arkansas the honor of being the first southern state to make adequate provision for the collection and recording of vital statistics. The people of the state are to be congratulated on having a legislature which is sufficiently broad-minded and progressive to enact such laws.

Qualifications of Native Chinese Physicians.—The following interesting quotation regarding Chinese physicians is taken from Jefferys and Maxwell's book, "Diseases of China":

"To become a physician a Chinese states to his friends and neighbors, 'I am a physician.' This is the limit of required preparation, although it is usually a development from a former apprenticeship. His diploma is the more or less handsome signboard which announces his determination to the neighborhood. The man whose father or uncle was a physician before him has the supposed advantage of inherited recipes and secret family remedies, and the farther back the medical ancestry the better. Main of Hongchow says: 'Native doctors do not know much and have forgotten much of the little they ever knew, and they are forever pouring drugs, of which they know little, into bodies of which they know less, and think nothing of putting a rusty needle into a patient's abdomen or clipping off an old-standing opacity of the cornea and sticking a dirty needle into an opaque lens in order to improve the sight!' The Chinese physician is usually a middle-aged man of dignified bearing, and his personality has much to do with his success. In the matter of ethics he has not much to boast of. He never does any earthly thing for anybody unless there is money in it, and he makes his deal in advance—so much down and so much guaranteed in case of cure. If he ever comes across a happy discovery, he buries it deep in his heart, strictly for personal private use. . . . He places the patient opposite his august self and begins and ends by feeling his various pulses two at a time. On the condition of the pulses depends much. It is customary to ask a few questions and listen to the patient's own story. He then writes a prescription for first, second or third rate medicine, according to the ability of the buyer. It is probable that a medical visitation is never completed without the administration of one or more drugs. No patient would be satisfied without them."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

ILLINOIS: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

IOWA: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

KANSAS: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

MARYLAND: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

MICHIGAN: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

NEW JERSEY: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

NEW YORK: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

NORTH CAROLINA: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

TEXAS: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

VIRGINIA: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

WYOMING: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Arizona January Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, January 3-4, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 9, of whom 5 passed and 4 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Southern California	(1909)	83.4
Northwestern University Med. School	(1901) 75; (1902)	79.6
University and Bellevue Hospital Medical College	(1910)	84.4
Starling Medical College	(1905)	77.5
FAILED		
State University of Iowa, College of Medicine	(1910)	73.1
College of Physicians and Surgeons, Keokuk	(1900)	72
Michigan College of Medicine and Surgery	(1902)	60.3
Washington University, St. Louis	(1903)	71

Colorado April Report

Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, April 4, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Ten candidates were examined, of whom 7 passed, including one osteopath, and 3 failed. Thirty-one candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Denver and Gross College of Medicine	(1910)	90.7
University of Colorado (1911)*	84.2, 85, 85.2.	
Kansas City Hahnemann Medical College	(1910)	75.2
University of Toronto, Ontario	(1909)	78.2
FAILED		
Kentucky School of Medicine	(1898)	56.5
Barnes Medical College	(1907)	65.5
Medico-Chirurgical College of Kansas City	(1901)	62.6

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
University of Southern California	(1909)	California
George Washington University	(1905) (1906)	Dist. Colum.
College of Physicians and Surgeons, Chicago	(1906)	Illinois
Rush Medical College	(1886)	S. Dakota
Chicago Homeopathic College	(1895)	Wisconsin
Hahnemann Med. College and Hospital, Chicago	(1885)	Iowa
Northwestern University Medical School	(1903)	Iowa
Chicago Medical College	(1875)	Kansas
University of Iowa, College of Medicine	(1897)	Wisconsin
University of Iowa, College of Homeo. Medicine	(1893)	Michigan
University of Louisville	(1883) Oklahoma; (1904)	Kentucky
Tulane University of Louisiana	(1907)	Mississippi
College of Physicians and Surgeons, Baltimore	(1904)	W. Virginia
University of Maryland	(1903)	Nevada
Harvard University Medical School	(1895)	Wisconsin
Missouri Medical College	(1878) Illinois; (1895)	Kansas
American Medical College, St. Louis	(1905)	Missouri
Homeopathic Medical College of Missouri	(1908)	Missouri
Long Island College Hospital	(1899)	New York
Albany Medical College	(1861) Mississippi; (1891)	New York
University and Bellevue Hospital Med. College	(2, 1906)	New York
Western Pennsylvania Medical College	(1888)	Penna.
Meharry Medical College	(1904)	Oklahoma
University of Texas	(1905)	Texas
University of Vermont	(1880)	Vermont
Queen's University, Kingston, Ontario	(1893)	Indiana

* These three applicants will be graduated in June, but took examinations in April. Licenses will not be issued until July meeting.

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 4, of whom 2 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Harvard University Medical School	(1910)	87.5
University of Michigan, Dept. of Med. and Surg.	(1907)	87.7
FAILED		
Baltimore Medical College	(1909)	76.5
University of Vermont	(1910)	72

West Virginia April Report

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written examination held at Huntington, April 10-12, 1911. The number of subjects examined in was 20; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 24, of whom 17 passed and 7 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Howard University, Washington, D. C.	(1909) 82; (1910) 81	92
George Washington University	(1909)	80
University of Louisville	(1887)	80
Baltimore Medical College	(1894)	82
College of Physicians and Surgeons, Baltimore	(1910)	84
University of Michigan, Dept. of Med. and Surg.	(1900)	87
Western Pennsylvania Medical College	(1896)	83
University of Pennsylvania	(1908) 91; (1909) 87; (1910)	83
University College of Med., Richmond	(1901) 86; (1909)	86
University of Virginia	(1904)	87
Meharry Medical College	(1908)	82
University of Toronto, Ontario	(1910)	86
FAILED		
University of Louisville	(1910)*	
College of Physicians and Surgeons, Baltimore	(1910) 69	75
Detroit Homeopathic College	(1911)	76
Eclectic Medical College, Cincinnati	(1910) 76	77
Chattanooga Medical College	(1910)	78

* Withdrew after having taken two branches.

The following questions were asked:

ANATOMY AND EMBRYOLOGY

1. Name the bones of the head. Mention the coverings of the brain. 2. Give the branches of the common iliac artery. 3. Give the boundaries of Scarpa's triangle. 4. Give the blood and nerve supply of the stomach. 5. Describe the jugular vein and mention its surgical significance. 6. Give the origin and insertion of the sartorius muscle. 7. Name the divisions of the alimentary tract. 8. Name the ligaments of the knee-joint. 9. Describe the cervical plexus of nerves. 10. What is the vitelline membrane?

PHYSIOLOGY AND HISTOLOGY

1. Large intestine: describe it and give function. 2. Heart sounds: describe them and give causes. 3. Animal heat: how produced and how regulated? 4. Glycogen: where produced? and give its use. 5. Seventh or facial nerve: give origin, distribution and function. 6. Pancreas: describe it and give function. 7. White blood-corpuscles: describe them and give function. 8. What does the presence of indican in the urine indicate? 9. Give histology of a human tooth. 10. Describe histology of kidney.

BACTERIOLOGY AND HYGIENE

1. What is the difference between an antiseptic and a disinfectant? 2. Give reasons for and against vaccination. 3. Name five contagious diseases; name three infectious diseases. 4. Give four modes of administering antitetanic serum. 5. What is tuberculin? What is its use? 6. What is a fair average death-rate in the country; in towns of 5,000 to 20,000; in large cities? 7. What diseases are propagated by drinking water? 8. Name six preventable diseases. 9. How can malarial districts be made healthy? 10. How long does vaccination last?

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Explain the following terms: acid, base, salt, efflorescence and deliquescence. 2. Name three compounds of mercury and give their formulas and uses. 3. What is the chemical name for each of the following: oil of vitriol, sugar of lead, copperas, saltpeter, bluestone, lunar caustic and common salt? 4. Name four gases which are poisonous and four gases which are not poisonous. 5. What are the proteids, the carbodydrates, and fats? Give examples of foods which are rich in each of these constituents. 6. What is the composition of milk? Give its specific gravity. 7. Give tests for sugar and albumin in urine. 8. Differentiate death from carbon monoxid gas and potassium cyanid. 9. What qualifications are required for the legal practice of medicine in West Virginia? 10. Give your views as to capital punishment, methods, etc.

PRACTICE OF MEDICINE AND PEDIATRICS

1. Name possible causes of dropsical conditions of the abdomen and lower extremities. 2. Differentiate renal and hepatic colic. 3. Give the character of the fever course in chronic tuberculosis. 4. What is an exanthematous fever? 5. Give the outlines of the liver as revealed by percussion when the patient is in the recumbent position. 6. Diagnose and treat gastric ulcer. 7. Describe and give treatment of cancer of the stomach. 8. Intestinal worms, their varieties, symptoms and treatment. 9. What is modified milk, how prepared, indications for use? 10. Diagnose and treat cholera infantum.

SURGERY

1. Describe the clinical manifestations of carcinoma of the breast in the early stages. 2. Describe the clinical symptoms of rupture of a middle meningeal artery due to trauma without an external wound. 3. Describe the common forms of anal fistula and their treatment. 4. Give the pathology, symptoms and treatment of a felon. 5. Given a wound of the scalp, what investigation of the wound is necessary? Describe in detail the surgical treatment. 6. What are the symptoms and treatment of a gunshot wound of the kidney? 7. Give and explain the symptoms of a strangulated inguinal hernia. 8. How would you differentiate between a fracture at the neck of the femur without impaction and a dislocation? Give Bryant's and Nelaton's lines for making the measurements. 9. Describe the different avenues through which the urinary bladder in the male may be emptied surgically. 10. What are hemorrhoids, what causes them and how treated? Give palliative treatment and treatment for radical cure.

SPECIAL MEDICINE

1. Define vocal fremitus. Name conditions that increase and diminish this sign. 2. Describe physical signs and make diagnosis of mitral incompetency. 3. Diagnose sudden loss of vision. 4. Diagnose and treat infected wounds of the eye. 5. Describe fully technic of nasal examination. 6. How may the exanthemata affect the nasal mucosa? 7. Discuss the importance of acute laryngitis in constitutional diseases. 8. Name the indications for tracheotomy. Describe operation. 9. Describe technic and give diagnostic value of lumbar puncture. 10. Describe loss of tendon reflexes, exaggeration of same, pathology and diagnostic value.

MATERIA MEDICA AND THERAPEUTICS

1. How do the simple bitters aid digestion? Name one of the most common 2. Purgatives: name two saline, two drastic and two cholagogue, with dose of each. 3. Give mode of applying heat as a remedy, physiologic actions and therapy. 4. Define massage. Give method, physiologic effect and therapy. 5. What are cerebral sedatives? Name four, with indications for use. 6. Pilocarpus: physiologic action and therapy, with dose. 7. Anthelmintics: name four. Dose of each for 6-year-old child. 8. Name three new remedies with use and dose of each. 9. Poultices: how and of what made? Action and uses. 10. Write prescription for diarrhea in adult.

OBSTETRICS AND GYNECOLOGY

1. When would you use forceps, and how? 2. Give the indications for version and detail the operation. 3. What symptoms would lead you to suspect a threatened miscarriage. 4. Name the principal diseases and conditions during pregnancy, said to be caused by that condition. 5. How and how long would you treat a babe apparently dead when born? 6. Describe varicose veins of pregnancy. Give dangers of same. Give treatment. 7. Give the cause, prognosis and treatment of pernicious vomiting of pregnancy. 8. Patient 54 years old—give symptoms of malignancy of the uterus. 9. Define ectopic gestation, name varieties, give diagnosis, prognosis and treatment. 10. Define leukorrhea and give three causes.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. What is a medicine? How are homeopathic medicines prepared? 2. Name four medicines whose effects are general on the human organism and give their action. 3. Give examples of four drugs whose effects are comparatively local or single. 4. Mention three or four drugs whose action is chiefly on the brain and spinal marrow. Describe their effects. 5. Name four drugs whose effects are chiefly on the digestive tract and give symptoms. 6. What symptoms are of most importance in making a prescription? 7. differentiate between uranium nitrate and phosphoric acid in diabetes. 8. What symptoms would lead you to prescribe merc. biniod, and in what diseases would you think of it? 9. What are the throat symptoms of apis mel, lachesis and phytolacca? 10. Give the headache of cannabis indica.

PRACTICE OF MEDICINE AND PEDIATRICS (HOMEOPATHIC)

1. Dysentery: etiology, complications and sequelæ; treat. 2. Cirrhosis of liver: etiology, symptoms and treatment. 3. Etiology and treatment of hemoptysis. 4. Rheumatism: give different forms; treat. 5. Intussusception: define, diagnose and treat. 6. Tonsilitis: differentiate from diphtheria; symptoms and treatment. 7. What diseases does meningitis complicate in children? 8. Intestinal catarrh of children: symptoms and treatment. 9. Describe the lumbricoides and give origin, symptoms and treatment. 10. Endocarditis in children: etiology, symptoms and treatment.

PRACTICE OF MEDICINE AND PEDIATRICS (ECLECTIC)

1. Give etiology, symptoms, diagnosis and treatment of chorea. 2. Define empyema; diagnose and treat. 3. Give etiology, diagnose and treat scoliosis. 4. Diagnose and treat incipient pulmonary tuberculosis. 5. Define tetanus; give the etiology, symptoms and treatment. 6. What symptoms would lead you to suspect malignant disease of the stomach. 7. Describe symptoms, diagnose and treat infantile spinal paralysis. 8. Discuss meningitis; make diagnosis and give treatment. 9. Describe management of "summer diarrheas" of children. 10. Discuss convulsions in children; give treatment.

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Give properties, therapeutic indications and dose of specific gelsemium veratrum. 2. Give the indications for aconite, belladonna, arsenic, nux vomica. 3. Define anodyne, anthelmintic, cholagogue, emmenagogue. Name two drugs of each class, giving dose. 4. Give properties, dose and therapeutic indications for potassium acetate, sodium sulphate, echinacea, bryonia. 5. Discuss physiologic action and therapeutic application of the nitrites. 6. Write a prescription for a stimulating expectorant. 7. Describe the physiologic action and therapeutic use of digitalis. 8. What remedies are usually indicated in acute catarrhal affections of the respiratory tract? 9. Define hemoptysis. How treat? 10. What remedies are commonly indicated in catarrh of the bile passages?

Wisconsin January Report

Dr. John M. Beffel, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Milwaukee, Jan. 10-12, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 21, of whom 18 passed, including 2 osteopaths, and 3 failed, including 1 osteopath. Twenty-three candidates were licensed through reciprocity, including one osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1872) 83; (1896) 86; (1910)	87
Bennett Medical College	(1911)	82
College of Physicians and Surgeons, Chicago	(1910)	85
Northwestern University Medical School	(1881) 83; (1898)	89
Chicago College of Medicine and Surgery	(1910)	76
University of Michigan, Dept. of Med. and Surg.	(1910)	84
St. Louis University	(1910)	79
University of Pennsylvania	(1908)	87
Marquette University (1910) 75, 76, 80, 80.		
Wisconsin College of Physicians and Surgeons	(1906)	83

FAILED

Marquette University	(1910)	69	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Bennett Medical College	(1894)	Iowa
Rush Medical College	(1882) Minnesota; (1902)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Illinois Medical College	(1908)	Illinois
College of Physicians and Surgeons, Chicago (1894) Illinois.	Indiana; (1908)	
Hahnemann Medical College and Hospital, Chicago (1907) Illinois; (1907) Minnesota.	(1901)	Iowa;
Northwestern University Medical School	(1908)	Illinois
Kansas Medical College	(1909)	Kansas
University of Michigan, Homeopathic College	(1907)	Indiana
Johns Hopkins University	(1901) Missouri; (1909)	Maryland
College of Physicians and Surgeons, Baltimore	(1901)	Maryland
University of Minnesota, College of Medicine	(1895)	Minnesota
St. Louis University	(1909)	Illinois
University of the City of New York	(1889)	N. Dakota
University of Nashville	(1909)	Illinois
Trinity Medical College, Ontario	(1897)	Kansas
University of Leipsig, Germany	(1889)	Iowa

Maine March Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, March 14-15, 1911. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 19, of whom 15 passed and 4 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Medical School of Maine	(1909)	89
Baltimore Medical College	(1906) 88; (1910) 78	85
Harvard University Medical School	(1902)	91
College of Phys. and Surgs., Boston	(1909) 75.5; (1910)	78
Boston University	(1901)	80
Ensworth Medical College	(1903)	76
Dartmouth Medical School	(1890) 79; (1910)	90
Long Island College Hospital	(1910)	83
Bellevue Hospital Medical College	(1885)	78
Medico-Chirurgical College, Philadelphia	(1908)	90
Jefferson Medical College	(1910)	80

FAILED

Hahnemann Medical College and Hospital, Chicago	(1909)	67
University of Maryland	(1910)	74
College of Phys. and Surgs., Boston	(1908) 78,* (1909)	76†

* Fell below 60 in anatomy.
† Fell below 60 in pathology.

Book Notices

ATLAS OF MICROSCOPIC DIAGNOSIS IN GYNECOLOGY. With Preface and Explanatory Text by Dr. Rudolf Jolly, Priv. Doc., Chief Physician of the Gynecologic Clinic, University of Berlin. Only authorized English Translation by P. W. Shedd, M.D., New York. Cloth. Price, $5.50. Pp. 192, with 54 illustrations. New York: Rebman Co., (1911).

An English translation of Dr. Jolly's work on microscopic diagnosis in gynecology is here presented. It will prove valuable to physicians in general and in particular to those who make their own microscopic examinations without the facilities afforded by well-equipped laboratories. Jolly has confined himself almost exclusively to those specimens which can readily be obtained from curettments, and sections which are accessible to the average physician in order to enable him to make a scientific diagnosis. The plates have lost none of the clearness of outline and coloring that were of such special value in the original work. The clearly defined description in the English text, differentiating between the normal menstrual and premenstrual mucosa, the decidua menstrualis, and the decidua of endometritis, is of much worth to the diagnostician. The exceptional accuracy with which Jolly calls attention to the recognition of early malignancy and the differentiation between benign and malignant growths makes the book valuable to the student and general practitioner.

REPORT OF THE DEPARTMENT OF HEALTH OF THE CITY OF CHICAGO. For the Years 1907, 1908, 1909, 1910. W. A. Evans, M.S., M.D., LL.D., Commissioner of Health. Cloth. Pp. 446. Chicago, 1911.

In his quadrennial report, Dr. William A. Evans, Commissioner of Health of Chicago, submits a summary of the activities of the department with explanatory statements, setting forth the details of the administration of the department, accompanied by articles on the various phases of public health work and suggestions as to the handling of public health problems. With the report are incorporated the reports of the School of Sanitary Instruction, which was incorporated in 1909 and has issued a series of weekly bulletins since that time; the Bureau of Contagious Diseases, the Infant Welfare Service, the Division of Hospital Control, Bureau of Sanitation (which includes the public baths and municipal lodging houses), the Municipal Laboratory, and the Bureau of Food Inspection and Vital Statistics. To this are appended the detailed mortality statistics of Chicago from 1907 to 1909 and a summary for 1910, a chronologic summary of the principal causes of mortality for the forty years from 1871 to 1910, and meteorologic data of Chicago, covering the same period, together with financial statements and departmental rules.

OUTLINES OF PSYCHIATRY. By William A. White, M.D., Washington, D.C. Nervous and Mental Disease Monograph Series No. 1. Third Edition. Paper. Price, $2.50. Pp. 272, with illustrations. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

The author modestly calls his production "outlines" of psychiatry, though it deserves the name of text-book. With an easy and attractive style he has succeeded in crowding the substance of modern psychiatry into the insignificant space of 272 pages. We know of no other book of similar size on this subject which is so free from errors of style, etc., and yet so comprehensive in scope. Though it is primarily written for students, the general practitioner also will find its perusal advantageous. The Kraepelinian tendency prevails throughout the book. Nevertheless, theories emanating from other sources are discussed without partiality; consequently the subjects of psycho-analysis and the new psychotherapy are given adequate expression. Of the many excellent chapters the one on "Methods of Examination" deserves particular commendation. In addition, the type is clear, the paper good and the price moderate.

EIGHTH AND NINTH ANNUAL REPORTS OF THE BUREAU OF SCIENCE [MANILA] TO THE HONORABLE, THE SECRETARY OF THE INTERIOR. By Richard P. Strong. For the Years Ending Aug. 1, 1909 and 1910, respectively. Paper. Pp. 62 and 70, respectively. Manila, 1910 and 1911.

These annual reports cover the work of the Bureau of Science of the Philippine Islands from August, 1908, to August, 1910. The report for 1908-09 presents the work of the biologic laboratory in the study of various tropical diseases in Manila and the provinces, among them being dysentery, leprosy, cholera and diphtheria; and the investigations of intestinal parasites and certain diseases in animals. The report also contains other matter not directly connected with zoology or medicine. The report for 1909-10 gives account of the further investigations concerning the diseases above mentioned. It has been the custom of the Bureau of Science in the Philippines to send parties of investigators into one of the provinces and study the diseases and parasites indigenous to that region in a rather intensive manner. This has led to important results and the reports of the work are of great interest.

ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Fiscal Year 1910. Cloth. Pp. 256. Washington: Government Printing Office, 1911.

The report of the Surgeon-General of the Public Health and Marine-Hospital Service for 1910 recounts the work of the bureau with especial reference to scientific research and sanitation; the supervision of viruses, serums, toxins and analogous products, including a list of establishments holding licenses for the manufacture, sale and barter of these products; investigations into certain epidemic diseases; studies of disinfectants; relations of the bureau to the pharmacopeia; the compilation of national, state and territorial health laws; and many other of the multifarious duties which are included in the work of the public health service. During the year fifty-one special articles appeared in the weekly *Public Health Report* and 364,306 copies of the various service publications were distributed. The surgeon-general invites attention to certain needs of the service: namely, the necessity of a larger appropriation for printing, additions to the office force, and the passage of a bill containing provisions for the increase of the compensations of the commissioned medical corps and, especially, for officers below the grade of assistant surgeon-general.

HOOKWORM DISEASE. A Handbook of Information for All Who Are Interested. Prepared Under the Direction of the State Board of Health of Florida, by Dr. Hiram Byrd, Assistant State Health Officer. Publication 79. October, 1910. Paper. Pp. 70, with 13 illustrations.

Florida was a pioneer state in the work of ameliorating conditions due to hookworm. For at least seven years systematic work to this end has been conducted by the state on its own hook (no pun), and at present it is not one of the states receiving assistance from the Rockefeller fund. In this brochure (Publication 79) a history of the work in the state is given, together with a description of the worm, its distribution, life cycle, the symptoms of uncinariasis, diagnosis and treatment, and some interesting reflections on the possibility of finally eradicating it, which, according to Health Officer Byrd, is remote. There is also a note on the Rockefeller Commission, and an interesting section on the influence of hookworm on racial development. The pamphlet is an interesting one on a large and important subject.

DISEASES OF CHILDREN FOR NURSES. Including Infant-Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia. Second Edition. Cloth. Price, $2 net. Pp. 470, with 118 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This book, in addition to giving some anatomy and pathology, briefly describes many of the diseases of children so that the nurse may have a sufficient acquaintance with them and the measures employed in treating them to be able to watch intelligently for important symptoms, to take necessary steps in emergencies, and to carry out efficiently the directions of the physician. The book is an elaboration of a course of lectures to nurses. It contains tables of weights and measures, a list of the pharmacopeial preparations commonly used, a list of abbreviations, a glossary of medical terms and an index. It is a clear, simple and well-written book for the nurse, much of whose work is among children.

DISEASES OF THE JOINTS AND SPINE. By Howard Marsh, M.A., M.C., Cantab., F.R.C.S., Master of Downing College and Professor of Surgery in the University of Cambridge. New and Enlarged Edition Thoroughly Revised by the Author and by C. Gordon Wat-

son, F.R.C.S., Surgeon to the Metropolitan Hospital. Price, $3. Cloth. Pp. 632, with 100 illustrations. Chicago: Chicago Medical Book Co., 1910.

This book, originally published in 1886, has been enlarged and largely rewritten. It contains much which is of interest, but not easily accessible to the general practitioner. The chapter on arthritis treats not only of tuberculosis, but also of syphilitic, gonorrheal, septic, rheumatic and gouty arthritis deformans, Charcot's disease of the joints, and many other joint diseases and disabilities. While the book is written from the standpoint of the general surgeon, by a man of experience, and is of positive value, it contains little or nothing of value on the mechanical treatment of joint diseases.

PERSONAL HYGIENE AND PHYSICAL TRAINING FOR WOMEN. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," etc. Cloth. Price, $2 net. Pp. 371, with illustrations.

This book meets an evident need, for it is complete without being ultrascientific, and, while dealing with the complex relations of women to the demands of modern life, it is free from fads and unsound theories. The aim of the author has been to present the fundamental physiologic laws of personal hygiene as well as practical detailed directions for the proper development and care of the body. The book can be safely recommended to physicians who desire something of this sort to put into the hands of their women patients. It will also be of value to teachers.

WHO'S WHO. 1911. [BRITISH.] An Annual Biographic Dictionary. Sixty-Third Year of Issue. Cloth. Price, $2.50 net. Pp. 2246. New York: The Macmillan Co., 1911.

This carefully prepared and relatively complete biographic dictionary of the living deserves much praise. Only those who have had to compile biographies appreciate the difficulties of such work. Modesty, fear, or carelessness causes many men whose names should appear in a work of this kind, and who have been asked for information, to refrain from furnishing it, and, of course, for all such omissions, not the individual, but the compiler or publisher must bear the undeserved blame.

THE MEDICAL DIRECTORY, 1911. Including the London Medical Directory, The Provincial Medical Directory, the Medical Directory for Wales, Scotland, Ireland, etc. Sixty-Seventh Annual Issue. Cloth. Price, 14 shillings net. Pp. 2128. London: J. & A. Churchill, 7 Great Marlborough Street.

The British medical directory for 1911 contains the names of 40,642 physicians, an increase for the year of 173. These are distributed as follows: London, 6,415; the provinces, 17,721; Wales, 1,336; Scotland, 3,958; Ireland, 2,724; abroad, 5,188, and in the United Services, 3,300. The directory has been prepared in the usual painstaking and exact way, but would, it is believed, be made of much more practical value if a general alphabetical index were added.

THE PRESERVATION OF SEWAGE BY THE AID OF CHLOROFORM AND COLD STORAGE. Dr. Arthur Lederer and Harry B. Hommon. Paper. Pp. 16. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The authors advocate the addition of 10 c.c. of chloroform to 4 liters of sewage, followed by storage at 10° C., as the most effective method yet devised for checking the chemical changes which take place after collecting a sample of sewage. Cold storage alone is shown to be reasonably good, but higher temperatures, even when chloroform is used, are ineffective.

TEXT-BOOK OF MASSAGE. By L. L. Despard, Member and Examiner Incorporated Society of Trained Masseuses. Cloth. Price, $4 net. Pp. 290, with 204 illustrations. New York: Oxford University Press, 1911.

In this book the anatomy and principles of elementary physiology are well discussed, about half of the book being devoted to this phase of the subject. The various diseases and the movements indicated are described from the point of view of one who desires to cooperate with the attending physician. This is a good text-book for teaching scientific massage.

MEMORANDA ON POISONS. By Thomas Hawkes Tanner, M.D., F.L.S. Eleventh Edition. By Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Price, 75 cents net. Pp. 167. Philadelphia: P. Blakiston's Son & Co., 1911.

Some modifications have been made in this little manual and some additions made, such as the synthetic substitutes for morphin, and information concerning food-poisoning.

A MANUAL OF PHYSICAL DIAGNOSIS. By Brefney Ralph O'Reilly, M.D., C.M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto. Cloth. Price, $2 net. Pp. 369, with 49 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This brief book covers in a systematic way the cardinal points in the examination of a patient, not attempting to enter into details minutely. It sets forth a comprehensive scheme for the examination of the patient, and in describing the different diagnostic procedures, is careful always to point out the significance and practical application of the findings. In an appendix are contained laboratory methods for examining the different secretions and excretions, etc., but, except in the case of the urine, which is rather fully treated, and the blood, to which fairly satisfactory consideration is given, the methods are given so briefly as perhaps to be of little practical value. The book is well illustrated and is a good brief work for the student or practitioner.

Medicolegal

Justifiable Prosecution for Illegally Practicing Medicine

The First Appellate Division of the Supreme Court of New York, in Schmidt vs. Medical Society of New York County (127 N. Y. S. 365), an action brought to recover damages for alleged malicious prosecution, reverses a judgment obtained by the plaintiff, and orders a new trial. The court says that it does not see how any person of ordinary intelligence would not have probable cause for believing that the plaintiff was engaged in the practice of medicine when the receipt of letters from the "Department of Glanderine," offering to cure of glanders a certain person in a hospital, the plaintiff's subsequent visits to the hospital, his conduct there, leaving medicine with directions as to its use, and permitting himself to be called a doctor, were considered. These facts, being uncontradicted and unexplained, justified the defendant in instigating his arrest on a charge of practicing medicine without being legally authorized to do so. The trial court should have so held and dismissed the complaint at the close of the plaintiff's case, and, having failed to do so, should have directed a verdict for the defendant at the conclusion of the whole case.

Before the plaintiff could succeed in this case, he had to establish by a fair preponderance of evidence that his prosecution was malicious, in other words, was without probable cause, and that he was acquitted. The trial court in this case was apparently of the opinion that actual guilt and probable cause must concur in order to constitute a defense. This is not the law; probable cause alone being a complete defense. It is not necessary that the accused, in order to justify a prosecution, should appear to be guilty beyond all reasonable doubt. The test as to whether reasonable or not must be applied at the time when the prosecution was commenced.

After a careful consideration of all the evidence adduced at the trial and giving the plaintiff the benefit of every disputed question of fact, the court is of the opinion that he not only failed to prove want of probable cause for the prosecution instigated by the defendant, but, on the contrary, the existence of probable cause was conclusively shown. There was nothing to indicate that the defendant was actuated by malice, or that it had any desire to do otherwise than carry out one of the objects of its incorporation, which was to prevent persons practicing medicine without being authorized to do so by the statutes of the state. It is unnecessary to determine whether the plaintiff was actually engaged in the practice of medicine within the meaning of the statute; it being sufficient for the purposes of this appeal that there was at least probable cause for the defendant's believing that he was doing so.

Manner and Time of Presenting Claim for Services Rendered Poor Person

The Supreme Court of Iowa, in Case vs. Davis County (129 N. W. R. 804) reverses a judgment obtained for medical and surgical services rendered to an alleged poor person, or pauper. As abstract propositions of law, the court says that it thinks

that it may be conceded: (1) That in this proceeding the county could not be heard to question the legal residence of the patient in the county, or to deny his necessitous condition at the time the services were rendered; (2) that the plaintiff was not precluded by his act in filing a claim against the estate of the patient, or by the fact that his bill so filed was for a much less amount than was stated in his claim against the county; (3) that, even if the services were originally rendered without the order or sanction of the township trustees, its subsequent certification and approval by those officers cured the defect. But the court does not agree with the view that the presentation of the claim to the trustees and its rejection by them in 1905 were not a bar to its presentation and allowance by their successors in 1908.

The trustees who authorize the service, or have jurisdiction in matters of poor relief at the time the services are rendered and bill presented, constitute a quasi or sort of judicial body for the consideration and allowance or rejection of the claim. Having once acted, if the claimant is not satisfied with the finding, his remedy, as the court views it, is and ought to be by resort to the courts or by direct application to the board of supervisors. To say that, when his claim is rejected, he may await any number of years short of the statutory period of limitations when other trustees who may have no knowledge of the merits of the case have succeeded to the office, and then renew his claim and secure its allowance, would be to open the door to many abuses. The court does not mean by this to say that a board of trustees having once rejected a claim may not within a reasonable time reopen its consideration, and, if so convinced, reach an opposite conclusion.

Then, while the previous order or request of the trustees may not always be necessary as the foundation of a claim against the county for relief furnished the poor, and while the decision of the trustees, acting in good faith, that a person is a proper subject for public aid is not ordinarily reviewable by the board of supervisors, it has never been held, and it would be a most mischevious rule to establish, that a physician, merchant, or other person may, by securing a certificate from a complaisant board of township trustees, make the county his debtor for an uncollectable bill contracted by an impecunious customer or patient. Yet this was substantially what was alleged was done in this case, and, if the proof should bear out the allegation, it ought to be, and the court holds would be, a good defense. To hold otherwise would be to say that the county is helpless to protect itself against gross imposition.

Operating to Recover False Teeth Without Sufficient Justification—X-Ray Experiment Evidence

The Supreme Court of Kansas holds that, in the case of Wingfield vs. McClintock and others (113 Pac. 394), as to two of the defendants, who may be designated as Drs. M. and K., there was evidence that should have been submitted to the determination of the jury, so that a judgment rendered in their favor, on a demurrer to the plaintiff's evidence, is reversed. The action was brought by the plaintiff to recover damages for alleged negligence and unskilfulness of said defendants in performing a surgical operation on her husband, which resulted in his death. He was a farmer who went to bed one night to some extent under the influence of intoxicating liquor, awoke after midnight, and, missing his upper set of false teeth, declared that he had swallowed them. Dr. K. was sent for, examined the throat by inserting his finger and said that he felt the teeth, but that they were in a position that he could not get them. The physician returned to the city; the man and daughter followed him. In the evening an examination was made with an *x*-ray machine, Dr. K. reporting that he saw the teeth, and that the best thing to do would be to go to a hospital at Topeka, where Dr. M. had *x*-ray things in his office, the best in Kansas. The trip was taken, and, without further *x*-ray examination, after Dr. M. declared that he could not feel the teeth with a probe, the surgeons cut into the neck and through the esophagus, and afterward into the stomach, when Dr. M. said, "The teeth are not here. If you will look in the room where he slept last night, you will find them." There was a question for the determination of the jury as to whether the misapprehension of the patient or the failure to exercise care on the part of the surgeons, if there was such failure, was the proximate cause of the operations on the patient.

The court does not consider it necessary to discuss the degree of care and skill legally required of physicians and surgeons, because, if the evidence of the plaintiff be taken as true, as it must be as against a demurrer thereto, the surgeons proceeded to operate on the neck of the patient after they had demonstrated that the teeth were not in the esophagus, and on the stomach, without investigation, when they could have definitely determined whether or not the teeth were there, and without an operation.

Complaint was made that evidence of an *x*-ray shadow picture taken by placing under a dead body a set of false teeth composed of porcelain teeth set in gutta percha, being a view taken from the opposite side of the body, was rejected as evidence in illustration of what might have been disclosed by an *x*-ray examination on the living patient. Evidence of experiments offered as an illustration of a fact in issue, which experiments are taken under widely differing conditions from the facts sought to be illustrated, are not admissible in evidence. It is a matter of common knowledge that the presence of an opaque object in the human body may be discovered by the *x*-ray process, if no other opaque substance intervenes; yet, as the shadow picture may be greatly changed by different positions of the body with reference to the instrument and by other conditions, the introduction should be allowed of such experiment evidence only as clearly appears to be an aid to the jury in determining the fact in issue.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

OHIO STATE MEDICAL ASSOCIATION

Annual Meeting, held at Cleveland, May 9-11, 1911

The President, DR. R. E. SKEEL, Cleveland, in the Chair

The list of officers elected was published in THE JOURNAL, May 20, page 1489.

The Commercial Exhibit, in charge of Dr. F. C. Herrick, was restricted, as to proprietaries, to those mentioned in New and Nonofficial Remedies, the book published by the Council on Pharmacy and Chemistry of the American Medical Association. This procedure met with much favorable comment.

The Practice of Medicine

DR. ROBERT E. SKEEL, Cleveland: It is an unfortunate thing that the practice of medicine has never been satisfactorily defined legally, and, therefore, hundreds of individuals are doing those things which medical men recognize as violations of the law, but which the lay mind fails so to discern. To the latter, the practice of medicine is, in a large sense, taken to mean the administration of drugs and the performance of operations, and anything which does not include one of these

two acts is regarded as an entirely extra-professional affair. To the medical mind, the practice of medicine means the application of any and all methods which may prevent, alleviate or cure disease, regardless of the means employed; and the profession insists that if the law as it stands be applied to its members, it ought likewise be applied to all others who, under whatever name, are using means to accomplish the same end. General medical education is necessary in order to diagnose disease, to understand its natural evolution and life history and prevent the dissemination of communicable disease in the community. At every session of the legislature, bills are introduced looking to the licensing of individuals practicing on certain portions of the body and permitting them so to practice with lesser qualifications than those demanded of the medical practitioner, while other bills are from time to time introduced providing that certain methods of treatment of the entire body be exempted from the operation of the law. As an example of the first class there is the optometry bill and of the second the prayer cure. Carried out to its logical conclusion, the first would soon split the body into a number of organs, each under the care of an individual who knows little of it and nothing of any other; while the second would place the health of the entire state in the hands of a coterie of sublime egotists, who claim that they and they only have access direct to the Almighty—for a consideration.

It should lie with the authorities to see that each individual practicing is doing so legally. If licensed physicians would announce themselves as such, demanding of the state that it protect the name of physician or doctor from being used by any other than those so licensed, it would put the entire matter up to the people themselves and if they then choose an unlicensed practitioner it would be with their eyes open. Nothing would more quickly cure them of their dislike for expert opinion and sane leadership in sanitary and medical matters than would the undoubtedly disastrous result of a spread of contagion following the mutilation and non-enforcement of present sanitary laws. The average individual to-day has more respect for his own physician and less for the profession as a whole than ever before, for the reason that he knows his physician and what he stands for while he knows nothing of the medical profession and what it stands for. To-day a smattering of medical education is possessed by all but the absolutely ignorant, and medical science has reached a sufficient degree of accuracy so that a frank and open statement of a case is the best policy in private practice, and a similarly frank and free discussion of medical topics is the best public policy. Medical, not general, ignorance is responsible for the flourishing condition of the pathies, cults and crazes of all kinds. Physicians should never hesitate to appear before clubs of all kinds with well-prepared talks on popular medical subjects, where the hearers should be set right on the whole subject of medicine and its activities. While the intelligent portion of the public has a smattering of medical knowledge it is absolutely ignorant of the fundamental principles underlying medical science.

Medical Inspection of Public Schools

DR. M. COPLAN, Cleveland: From an economic and humanitarian point of view, there can be no more valuable service rendered to humanity than in the preservation of the health of the children, and this can be accomplished only through medical inspection in the public schools. Medical inspection should be an important branch of the educational system. In medical inspection the nurse is an important adjunct to the school inspector and to the defective children. It is the practical work of the nurse that has drawn public interest to the medical work in the school and vitalized the hitherto perfunctory routine of medical inspection. School instruction in sex hygiene, if done properly and systematically, is the only remedy and prophylaxis for the existing conditions as regards venereal diseases and the code of morals among classes of society. Children should be taught as carefully in matters pertaining to sex hygiene as in deportment and other branches of elementary and academic studies. The medical inspector and the school nurse can best impart this knowledge and picture the penalties of vice and transgression.

DR. A. M. CRANE, Marion: Sex hygiene should be taught in the schools in separate classes, and by a physician who is capable of approaching these topics in such a manner and using such language as will be understood by boys and girls. Object lessons should be employed, such as lantern slides and microscopic examinations that will demonstrate the evils to be incurred.

DR. J. M. RECTOR, Columbus: I wish to advocate instruction in preventive measures, such as are being carried out by the army and the navy and which have here greatly reduced the prevalence of venereal diseases.

Abdominal Pain

DR. R. H. GRUBE, Xenia: If Lennander's theory is true, and its corollary, that adhesions are chiefly the result of infantile colitis, the great necessity of preventing and of quickly curing bowel trouble in infants is apparent. While these almost startling views of Lennander have not been unqualifiedly received by the profession, they form a good working hypothesis for the interpretation of abdominal pain.

DISCUSSION

DR. G. F. ZINNINGER, Canton: The pain symptom is of great importance, as it is this that most frequently sends the patient to the physician, and without it patients would drift into much more serious stages of disease. No doubt better diagnosis can be secured by carefully analyzing the symptom of pain as it presents itself. I cannot accept the theory of Lennander in its entirety, but it is helpful in correcting some erroneous ideas. The end organs of the abdominal viscera may be different than those on the surface of the body, and we are told that the organs are insensitive to cutting, tearing or burning, but that a ligature around the appendix affords great pain. Cognizance should be taken of conditions in which pain is absent (as in tabes); also in which pain exists in the abdominal cavity while the disease is in some other part of the body, as the abdominal pain in pneumonia. The physical condition of the patient, the history and the symptom of pain should all be considered in forming a diagnosis.

DR. C. F. KLINE, Portsmouth: There is generally an absence of pain where the vagus nerve alone supplies, and it is supposed to not have many sensory fibers, but it is known that there are certain pains produced in the heart.

DR. R. K. UPDEGRAFF, Cleveland: What is green apple colic, or calomel colic, both of which are terminated by belladonna?

DR. R. H. GRUBE, Xenia: In people who are subject to these sharp attacks of colic, there are adhesions that have existed from infancy, and only when the intestine is drawn into increased activity by some agent such as calomel, is the pain elicited. Statistics give as high as 30 per cent. of all persons going to autopsy as having these adhesions.

Cardiac Syphilis

DR. ALFRED S. WARTHIN, Ann Arbor, Mich.: Cardiac syphilis must be regarded at present as the most important factor in the production of heart disease. In the children's department at Ann Arbor, twelve young people died suddenly with symptoms of cardiac insufficiency and without any suspicion of congenital syphilis. These children at autopsy showed nothing that would be attributed by the pathologist to syphilis; but on examination according to the method of Levaditi certain changes were found that have led me to believe that certain forms of myocarditis are always syphilitic. In going over thirty-five cases of acquired syphilis and staining the tissues that could still be prepared by the Levaditi method, the same form has been found associated with spirochetes. The majority of these were men who had been successfully treated seven to twenty years previously, and not even the attending physician associated the present condition with syphilis. The characteristic is the presence in the muscular fibers of light staining surfaces. There are peculiar fibroblastic cells that follow the course of the smaller vessels. The tissue retains an embryonic type. These characteristics might be interpreted as an edema at first sight. The muscle always shows a peculiar degeneration, and the characteristic appearance is

that it fades away, without showing a marked contrast, but the paleness runs into the other fibers. In older hearts, fatty degeneration is very common. The tissue is full of spirochetes. The heart muscle is atrophic and the fibers smaller. The epicardium may show a few cells and there is a localization of the spirochetes, the same condition showing in the endocardium. No part of the heart is free from this. In one case, that of a child 2½ months dying suddenly, the heart alone contained these spirochetes. This localization of spirochetes is the important point. It is found many times after a man has no symptoms elsewhere in the body, and associated with weakness of the heart, likewise with sudden death.

DISCUSSION

DR. JOHN E. GREIWE, Cincinnati: Literature on the subject teaches that syphilis has a very definite area in the heart, i. e., very close to the aortic rings and aortic valves, but the case is now made out beyond the question of a doubt that every process of the myocardium is to be dealt with. These cases which have been looked on as edema of the muscular tissues occurring shortly before death, have been absolutely proved to be of syphilitic origin.

DR. J. M. RECTOR, Columbus: Have you used salvarsan in any of these cases and with what result?

DR. G. F. ZINNINGER, Canton: Are there any criteria for diagnosing these cases on clinical grounds ante mortem?

DR. KENNON DUNHAM, Cincinnati: Has a similar condition been found in the lungs?

DR. C. E. NORRIS, Akron: Can any reason be given as to why the spirochete of syphilis localizes in the heart tissues?

DR. A. S. WARTHIN, Ann Arbor, Mich.: I have not had any opportunity to make an autopsy on cases in which salvarsan has been used, nor do I know why the heart is a place of selection for the spirochete, but when there are none elsewhere the heart will show great numbers of them. A large number of these cases show the typical syphilitic aortitis. I have not found in these cases either lesions or spriochetes in the lungs. The important thing is that enormous masses of these occur in a certain place and not in others, and why drugs and treatment will not affect them will have to be worked out afterward. I do not believe that a clinical diagnosis can be made. The diagnosticians have not suspected syphilis in a great many cases until the heart was examined. Just now the case is one for pathologists, but one must, in cases of sudden death, think of cardiac syphilis and look to the laboratory demonstration for the cause.

(*To be continued*)

MEDICAL ASSOCIATION OF GEORGIA

Sixty-Second Annual Session, held at Rome, April 19-21, 1911

The President, DR. E. C. DAVIS, Atlanta, in the Chair

The officers elected were named in THE JOURNAL, April 29, page 1270.

Addresses of welcome were made by Judge Moses R. Wright of Rome and by Dr. W. W. Mangum on behalf of the local profession. Dr. Dunbar, Atlanta, responded in behalf of the association.

The Association of Uncinariasis in Cataracts

DR. F. P. CALHOUN, Atlanta: Some months after Harris announced the prevalence of hookworm in the South, there was found in an eye clinic in Atlanta a case in which there were mature cataracts. Examination of the feces confirmed the diagnosis of hookworm. This case and others subsequently found were reported by my father, and, with a number that have come under my own observation, lead me to believe that the anemia of hookworm can cause cataract. All these patients state that at one time they had good vision; there was sickness which developed after having the ground-itch (meaning anemia and its results), then occurred the gradual loss of sight and finally partial or total blindness. In all of these patients the age at which the sight commenced to fail is unusual for the development of cataract.

DISCUSSION

DR. W. E. TAYLOR, Atlanta: All sorts of general diseases affect the eye and therefore the examination of the eyes should be undertaken only by men who have had experience in this line of work.

DR. R. P. COX, Rome: Seven or eight years ago I made an examination of school children and found that 56 per cent. of the pupils had the disease in one way or another.

DR. A. G. FORT, Lumpkin: In an examination of individuals almost if not completely blind, a large percentage will be found infected with hookworm disease. I do not believe that hookworm itself will produce blindness, but that there is some relationship between the hookworm toxemia and defective vision.

DR. F. P. CALHOUN, Atlanta: I am unable to say how cataracts are produced by hookworm, but it is often found that lens shows beginning cataract and this is excited to growth by the hookworm.

Treatment of Digestive Disturbances by the Surgeon

DR. R. P. GLENN, Columbus, Ohio: Some of the conditions best treated by surgical measures are: 1. Gastric and duodenal ulcer with its proneness to become malignant will often yield to no measures with such promptness and satisfaction as to an operation. This is to be resorted to only after a reasonable time has been devoted to medical treatment. 2. Patients suffering from chronic cholecystitis or cholelithiasis, if not relieved by hexamethylenamin, olive oil and sodium phosphate are fit subjects for the surgeon. 3. The gall-bladder and appendix are responsible for a large majority of cases of so-called indigestion and when this is the case their drainage or removal is the only way to secure satisfactory results. 4. All physicians are familiar with the nervous and digestive symptoms which accompany gynecologic cases and how quickly they disappear when the cause is removed.

Psychotherapy in Habitual Constipation

DR. E. T. GIBBS, Gainesville: In reporting this series of 106 cases of habitual constipation cured by psychotherapy, no originality is claimed for the idea, as it was obtained from Dubois of Berne, who has used the method for over thirty years. In the series were a number of cases of dilatation of the colon, with such symptoms as headache, vertigo, nausea, gaseous eructations, slight dyspnea, pains in the back, and, at times, various nervous symptoms. It seems to me that the establishment of regular peristaltic action, a proper diet and a reeducation of the patients' ideas concerning themselves has largely to do with their future well-being. In these cases an effort has been made to use only rational persuasion. Particular pains are taken to make no statement that is not what I believe to be absolutely true. Then it will become possible to persuade the patient of the logic of such a statement step by step. In a general conversation the patient's ideas are studied and we find the obstacles which our conversation is to overcome. The influence of habit is emphasized and a few examples suitable for the individual patient are cited. It will be easy for the patient to recognize that if the regular retiring hour is ten o'clock the eyelids will become heavy at that hour. The patient may not have analyzed these facts and applied the comparisons which we suggest. We can show him that when he is constantly devising means for the operation of his bowels they become accustomed to the aid and wait for it. The functions of digestion are gone over in a simple way and special stress is laid on peristalsis, mastication, deglutition, etc. No directions much out of the ordinary are given. Emphasis is placed in the successive invitations given by getting out of bed, dressing, taking a glass of cold water, then breakfast and then going to the toilet. Coffee, dry toast and crisp bacon may be ordered for breakfast. Directions are given as to the use and abuse of the abdominal muscles and the will power. An enema may be given the third or fourth day, but do not tell the patient this until the time arrives. Much depends on getting the confidence of the patient. A certain amount of enthusiasm, together with sincerity in expectation of outcome, is a valuable, if not a necessary, adjunct to the physician

giving the direction. Both highly intelligent and ignorant persons have alike responded to the treatment. The time of recovery in all cases was within six days. A liberal diet, especially of vegetables and fruits, free drinking of water and regularity of the chosen hour are all important.

Penetrating Wounds of the Abdomen

DR. J. R. B. BRANCH, Macon: I have collected fifty cases from the Macon Hospital records, showing a mortality of 52 per cent. These patients were operated on by six different surgeons and we have reached the following conclusions: 1. In all penetrating wounds of the abdomen seen within twelve hours from the time of the injury, operation should be done as promptly as is consistent with good technic and skilful work. 2. The incision should be made large enough to insure a good survey of the abdominal viscera without unduly exposing them. 3. Extensive evisceration is unnecessary and unjustifiable, greatly increasing the mortality. 4. Unless the peritoneum is extensively soiled, intestinal content should be wiped away with salt gauze sponges; irrigation does more harm than good. 5. If the closure of the perforation, or destruction of the blood-supply threaten seriously the usefulness of a portion of the bowel, resection should be done. 6. If the peritoneal cavity is soiled extensively drainage is safer; otherwise the incision may be closed. 7. Post-operative treatment is very important. Fowler's position should be maintained.

DISCUSSION

DR. W. P. HARBIN, Rome: The great fault lies in waiting for symptoms which indicate perforation of the intestines. To follow such a policy is fatal in many instances. In any case of doubt regarding the perforation of the intestines it is better to open the abdomen at once. In many instances it is a long and tedious process to find a small perforation. I have a case in which failure to find an abrasion of the intestine led to the development of a fecal fistula three weeks after the operation.

Fifty-Seven Consecutive Operations for Fibroid Tumors of the Uterus

DR. EDWARD G. JONES, Atlanta: The operations analyzed represent my own individual work. They are consecutive and comprise fifty-one abdominal hysterectomies, two abdominal myomectomies, three vaginal myomectomies and one celiotomy without removal of the tumor. The youngest patient was 21 years of age and the oldest 54. In regard to prior symptoms, forty complained of pelvic pain, six did not so complain, four had pain irregularly, and in seven cases no record was made. In regard to hemorrhage, no record was made in eight cases; in nineteen, hemorrhage was irregular and profuse; in fifteen neither irregular nor profuse; irregular in seven, and profuse in eight. Leukorrhea was profuse in thirty-three, slight in four, absent in twelve, and there was no record in eight cases. There was troublesome vesical irritation in thirty-three cases, no irritability in sixteen and no record in eight. Data in regard to childbearing in thirty-nine of these women showed that thirty-six had borne a total of sixty children. Of the thirty-six, thirteen had never been pregnant. There was a total of fifty abortions or miscarriages. As to postoperative history, forty-nine have reported the general health satisfactorily improved since the operation. No hernia has developed in any instance, and all have reported but seven. Of forty-four patients on whom hysteromyomectomy was done, a bloody discharge simulating menstruation is reported as occurring a few times in nine patients; in thirty-five there was none. In some of the cases the leukorrhea continued about as before the operation and in some it was less troublesome. Nine patients complain of slight bladder irritation since operation, but none of severe irritation. Such information as I have been able to secure indicates that when the menopause is brought on artificially by removing both ovaries, the symptoms experienced are less severe than with the natural menopause. No patient has developed serious mental disturbance. A few patients complain of the persistence of vague pain, but a number in whom such pain was to be expected because of extensive adhesions seemed to be surprisingly clear of it. Experience has taught me to be more and more careful to suspend the cervical stump, if left, by the round ligament or by the gathered peritoneum of the broad ligament. In none of these cases have gall-stones been discovered, though they were always sought by palpation. There were four deaths in this series of cases, but only one in the last thirty-seven.

DISCUSSION

DR. S. T. BARNETT, Atlanta: In making the amputation was the cervix included? I had the misfortune to lose two patients, owing, I believe, to the fact that the blood was impoverished; the hemoglobin percentage was so low that the women had no chance to survive the operation. They should have been given the opportunity to have the hemoglobin percentage brought up.

DR. J. L. CAMPBELL, Atlanta: I consider the care of the ureters as very important in these operations. I have found that giving methylene-blue twenty-four hours prior to the operation will stain the ureters a deep blue; since using this method I have never cut or tied the ureters. This method is valuable in operating on intraligamentous tumors where the tumor is between the broad ligament and the ureter. The patients on whom I have operated have experienced considerable trouble after their periods. I believe in leaving all the ovarian substance possible.

DR. FLOYD W. MCRAE, Atlanta: There is no danger to the ureters if one keeps close to the tumor he is removing. A careful surgeon never cuts or ties a ureter. I am interested in the way Dr. Jones has followed up the histories of his cases. We do not want to know merely whether the patient survived the operation, but we do want to know what the condition is three, four or five years afterward. I, too, wish to emphasize that we should leave as much of the ovarian tissue as possible.

DR. E. G. JONES, Atlanta: Supravaginal amputation has been the operation of choice; I do not think that the mere fact that a woman has a cervix calls for its removal in these cases. In dealing with the ovaries as much of them should be left as possible; but, as a matter of fact, if one or both ovaries suffer from a surgical lesion and are left it shows bad surgery on the part of the operator.

Nausea and Vomiting; Their Clinical Significance

DR. W. W. JARRELL, Thomasville: Nausea is an initial symptom of a condition of which vomiting is a later manifestation. This proposition, however, must be modified somewhat for we may find nausea without vomiting and vomiting without nausea. Nausea is classed with pain, hunger and thirst, all sensations which cannot be referred to any nerve center. Nausea may result from the stimulation of any of the senses, and it may attend certain intellectual processes; it is also a symptom of organic disease and the presence of toxins in the system. The non-toxic group comprehends such causes as repulsive sights, nauseous odors, suffocating heat, disgusting tastes and profound nervous shocks, either through the channels of sensation or through the intellectual faculties. The toxic group should be divided into organic and non-organic causes. The organic causes include diseased or changed conditions of the various viscera whereby their normal relations are disturbed or their normal functions become morbid. The non-organic class embraces those substances which through their chemical or physical characteristics, by their local or general action produce this sensation. In this group naturally fall foreign substances, be they indigestible foodstuffs or chemical poisons. These non-organic causes, even though they may occasion sudden death, are not, generally speaking, so insidious or dangerous as the organic type, and they are far more amenable to treatment. Nausea of the organic type is often very obscure in origin and its true significance may not be recognized till the condition is irremediable. Every viscus of the body may evince nausea as a symptom of derangement. The causes of vomiting, like those of nausea, may be classified as non-organic and organic, the terms having the same significance as in the classification of nausea. It is the organic type of vomiting with its com-

plexity of causation that requires the exercise of one's keenest faculties to save him from false conclusions and serious mistakes. Nausea and vomiting are common to a multitude of conditions, varying from simple mechanical distention of the stomach to intestinal obstruction, from functional derangements to malignant diseases, from hysteria to morbid changes in the brain and cord. They are symptoms which should not be overlooked.

The Treatment of Fractures

DR. T. J. CHARLTON, Savannah: One of the surprises that the Roentgen-ray has revealed is that the much-dwelt-on perfect apposition of the fragments is practically never obtained, and this regardless of the method of treatment. Return to function is the chief factor in the treatment of fractures, though to obtain this we have to accept a certain amount of deformity. There are three methods of treatment that have attracted much attention and are destined to influence all future treatment. First is the open treatment, of which Lane is the chief exponent. The second method is that of Bardenheuer of Cologne and consists of a more or less complicated system of extension and counter extension. The third method was introduced by Lucas-Championnière of Paris and consists of massage and movements, both active and passive, applied from the beginning of treatment and continued until the parts are restored to function. To secure the best results we must keep in mind that by the end of the second week the set of the fracture is fixed and that the early work determines the result. One must keep in mind the causes acting to displace the fragments, retraction of the muscles, hemorrhage into the tissues, and inflammatory edema. In all recent fractures plaster of Paris should be used with the utmost caution. It is always best to put up a fracture as soon after injury as you can and to use the simplest splint that will retain it in place; it takes only a little mechanical skill and special splints are not required. I consider the daily adjustment of splints for the first two weeks of the utmost importance. Only in this way can one be certain to balance the disturbing elements of muscle retraction, hemorrhage and inflammatory edema. Massage and movement is a great aid; it adds to the comfort of the patient and hastens recovery. This is combined with passive movements of the nearby joints and it is not necessary to put the joint through its full limit of motion. Slight movement of the fragments during massage is unimportant and will not delay union, but rather quicken it. The physician should always perform this massage himself. When the union becomes fixed, the patient may move the joint himself, thus supplementing the passive movements, but always with the same care and gentleness, supporting the fracture with the hand as a splint. In the fractures of children, massage and movement are not so important.

Surgical Deliberation

DR. FLOYD W. MCRAE, Atlanta: As I grow older in surgery I am more impressed with the importance of surgical deliberation. I have seen many incomplete or misdirected operations followed by unsatisfactory results which were later cured by complete, properly directed, well-executed operations. I have known many cases of overlooked conditions, as a pus tube or ovarian cyst left and the appendix removed; pelvic surgery done completely and well, but a gall-bladder full of death-dealing stones; or a gastric or duodenal ulcer overlooked; the appendix removed to be followed by identical postoperative attacks of mucous colitis. The colitis could have been diagnosed by careful observation. On the other hand, many cases of gall-stones, cholecystitis, gastric ulcer, duodenal ulcer and chronic fibroid appendicitis are being mistreated and misnamed indigestion, hypo-acidity or hyperacidity, etc. Surgery and surgeons are thus brought into disrepute. How often has careful investigation with laboratory aids stayed the too ready surgical hand? We need specialists but not the "made in six weeks type" who assume the whole human organism to be a thing revolving around their little specialty. We need men fair enough to realize the worth of their fellow workers and to give those who appeal to them for aid a square deal. I find myself every year more and more indebted to the laboratory, but we must not allow ourselves to become too dependent on this help. Every surgeon should so perfect himself in diagnosis that he will have fewer and fewer occasions to correct himself on the operating table. There should be more cooperation between specialists and general practitioners, and the surgeon should recognize that after operation the patient has need of the care of his family physician.

DISCUSSION

DR. E. G. JONES, Atlanta: It is wonderful how much important information can be elicited in taking a careful history, but much patience is required on the part of the examiner. Two or three days' observation is too short a time in these cases and is only called for in emergencies. These patients should be brought back to the physician again and again if he is to make an accurate diagnosis.

DR. FENTON B. TURCK, Chicago: Dr. McRae's paper calls for the better education of medical men throughout the country, and presents the importance of more study, especially as it refers to the laboratories. To establish laboratories in smaller towns would not cost a great deal. The close contact among men in these laboratories would be of value.

(To be continued)

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

The President, DR. F. FORCHHEIMER, Cincinnati, in the Chair

A list of officers elected was published in THE JOURNAL, May 20, p. 1490.

The General Practitioner

DR. F. FORCHHEIMER, Cincinnati: The general practitioner is still the backbone of the medical profession. His development implies so much attrition, so much knowledge, so much resourcefulness, so much character and so much humanity that when the general practitioner has attained his full growth he is easily among the first citizens of his community. Nowhere does weeding out go on more rapidly than in the medical profession. Those who are eliminated first are the ones who have failed on account of adverse external conditions such as poverty and professional competition. Hartman accepts three kinds of nobility, namely, of birth, of mind and of finance, and places physicians in the second class. Premedical education is in a chaotic condition. According to the higher demands of certain states and certain schools so much time is required for premedical education that the student gets through his medical course at too advanced an age. The remedy for this lies in making a change in the curriculum of the primary and the secondary school.

A Clinical Study of Ascites

DR. R. C. CABOT, Boston: I have tabulated the autopsy and operation records of the Massachusetts General Hospital for the past forty years to show the relation these figures bear to the clinical diagnosis of ascites. The bulk of the cases were found to be due to one of five causes: cardiac weakness, nephritis, abdominal neoplasms, cirrhotic liver or tuberculous peritonitis. Among the possible causes of extensive ascites we must not lose sight of the small solid tumors of the ovary. Pleural effusion may be produced by an extensive ascitic accumulation. This association may lead to a false diagnosis of pleural and peritoneal tuberculosis. The cure of both pleural and peritoneal effusions may result from excising a benign ovarian tumor. Among all causes of ascites, tuberculous peritonitis may sometimes be recognized by the greater slowness of its accumulation of fluid.

DISCUSSION

DR. LEWIS A. CONNER, New York: Did Dr. Cabot make a study of the fluid itself to aid him in his diagnosis in ascites? It seems to me sometimes that is of considerable value, just as it is in pleural fluid.

DR. R. C. CABOT, Boston: We worked with the fluids in every case, and I was impressed with the fallibility of this test when one came to really doubtful cases. Of course, in cardiac or renal cases one got low gravity fluids, but when one came to tuberculous peritonitis, cirrhosis of the liver and ovarian ascites, the three in which there is real difficulty in diagnosing, at times the characteristic fluid was present, but as a rule, nothing of importance; the albumin and specificity were no guide in these cases.

The Present Status of the Tuberculin Test

DR. LAWRASON BROWN, Saranac, N. Y.; Among laboratory animals only those which are tuberculous react to tuberculin. Normal animals have tuberculin tolerance but no tuberculin anaphylaxis. Many autopsy reports throw grave doubts on and, I believe, disprove all published statistics which show that other diseases react specifically to tuberculin. Such cases are in reality double infections. A slight tuberculous infection may be sufficient to cause a reaction for a time and yet leave no permanent pathologic change visible to the naked eye. The conjunctival test has produced a number of unfortunate accidents, but by excluding all patients who have ever had trouble with their eyes, and using only 1 to 5 per cent. solutions of the old tuberculin, the test seems comparatively safe. There is some danger in the cutaneous test, but it is so slight that it may be disregarded, except in scrofulous children. The tuberculin test sometimes results positively in healthy men, a circumstance which warns us not to depend too much on it. Also failure to react to 10 mg. of old tuberculin, given subcutaneously, does not exclude clinical tuberculosis. However, in the presence of indefinite symptoms such patients do not require treatment. A negative subcutaneous test in a tuberculous person may indicate either the absence of receptors at the site of the lesion or the presence of free antibodies in the blood. If we except, for the time being, leprosy, tuberculin is a specific test for the detection of tuberculous infection. In practice, exposure to infection, characteristic symptoms, such as hemoptysis, pleurisy with effusion or dry pleurisy on both sides, and localized persistent physical signs at one apex are diagnostic data of far more importance in clinical tuberculosis than that derived from the tuberculin tests. The subcutaneous test is still the most reliable of the tuberculin tests.

DISCUSSION

DR. FREDERICK C. SHATTUCK, Boston: I wish to corroborate Dr. Brown's statement that the subcutaneous test is the most reliable. I have used it for many years with the utmost freedom. I have never seen any untoward result beyond a disturbance of two or three days, except in one case of Addison's disease. Two days after the injection the patient was dead.

DR. THEODORE C. JANEWAY, New York: I want to corroborate Dr. Shattuck's experience of rapid fatal issue in Addison's disease following injection of tuberculin for diagnostic purpose.

DR. HENRY KOPLIK, New York: I make use of the von Pirquet test in children almost as a routine. In some cases in older children, wishing to confirm the diagnosis of tuberculosis, where there were other conditions present, such as pleurisy with effusion, after the patient has improved and the temperature dropped and the patient has been well for a little while, I have had some very unpleasant experience in trying to confirm the test of von Pirquet in making injections of old tuberculin. The temperature rose, the effusion increased and the little patients were quite ill. This is a very unpleasant thing to happen to a clinician after his patient has been apparently on the road to recovery.

DR. I. ADLER, New York: I have had under observation now for two years a mild case of undoubted Addison's disease; the patient has been exclusively and continuously treated with tuberculin injections, beginning with very small doses, and now she is taking very large doses and has been perfectly well and has been bettered by it.

DR. JOSEPH L. MILLER, Chicago: I believe the very conservative stand by Brown is to be very highly commended. Since the introduction of the simpler tuberculin tests, like the von Pirquet, I believe there has been a great deal of harm and injustice done the patients by assuming that inasmuch as they gave a positive von Pirquet, it was necessary that they be sent away from home and be treated as patients suffering with the severe form of tuberculosis, whereas, as a matter of fact, there was no clinical evidence that these cases were tuberculous.

Quinin and Urea Hydrochlorid Hypodermically in Acute Pneumonia

DR. S. SOLIS-COHEN, Philadelphia: There is a tradition that quinin given early will abort an attack of lobar pneumonia. In an early experience of mine, 60 grains of quinin sulphate, given in error in a period of six hours, beginning two hours after the initial chill, apparently acted in this manner. The revival of the quinin treatment of pneumonia by Galbraith in 1904 led me to employ the double hydrochlorid of quinin and urea. From 6 to 10 grams, according to effect, are given in from 48 to 72 hours. Cinchonism does not develop. Temperature and pulse fall gradually and proportionately, and respiration more rapidly—with a tendency to restoration of the normal pulse-respiration ratio. Blood-pressure remains stationary or increases; cough diminishes; breathing becomes relatively easy; delirium abates or disappears. Crisis does not occur. Termination is by lysis at about the ordinary time, five to eleven days. Percussion and auscultation signs are uninfluenced. Involvement of new areas may take place during treatment, with return of symptoms, necessitating new injections. Pneumococcic empyema has occurred. The pathologic processes in the lung would thus appear to evolve in the customary manner, unmodified by the treatment, which is apparently not germicidal and is without effect on tissue changes, but is chemical and antitoxic. Fresh air, water, saline infusions, and symptomatic medication when needed, were associated with the quinin treatment.

DISCUSSION

DR. F. P. HENRY, Philadelphia: Two years prior to the time at which Dr. Cohen claims to have instituted the use of quinin in the treatment of pneumonia I was led to its use through an article by Petzold. I used the hydro-chloro-sulphate of quinin. I can corroborate all that Dr. Cohen says in favor of the method.

DR. A. JACOBI, New York: I have used the double hydrochlorid of quinin and urea a great deal, but have found that it frequently produced gangrene of the skin.

A Pneumatographic Study of the Respiratory Irregularities in Meningitis

DR. LEWIS A. CONNER and DR. RALPH G. STILLMAN, New York City: Forty-one cases of meningitis were studied graphically by means of the Marey spinal spring type of pneumatograph; one tube being placed about the upper part of the chest to record the thoracic movements, and a second about the abdomen at a point midway between the ensiform cartilage and the umbilicus to register the movements of the diaphragm. In thirty cases of tuberculous meningitis respiratory disturbances occurred during some part of the illness and usually throughout the greater part of it. Among eleven non-tuberculous cases alterations in the respiratory rhythm were observed in all but two cases. The disturbances of respiratory rhythm in meningitis can be divided into three fairly distinct groups: 1. Type of Cheyne-Stokes. 2. Biot's "meningitis rhythm." 3. An undulatory type. The Cheyne-Stokes type seen in infants and children with meningitis shows certain differences from that ordinarily seen in adults. Biot's type of breathing is characterized by constant irregularities in rate and force, by frequent occurrence of deep sighs and by apneic pauses varying in length and occurring at irregular intervals. In the undulatory type there is a rhythmical variation in the force of the respirations, or in the tone of the respiratory muscles or in both of these together without any periods of

apnea. This undulatory type was observed at some time in almost every case. In twelve out of forty-one cases it was the only type of disturbance noticed. In twenty-three cases (56 per cent.) Cheyne-Stokes breathing was observed. In ten cases (25 per cent.) Biot's type was noticed at some time. In six cases both the Cheyne-Stokes and the Biot types were seen at different times. Because of its occurrence in almost every case of meningitis and because it is often observed early in the disease, this symptom of disturbed respiratory rhythm is of very considerable diagnostic importance, especially in meningitis of the tuberculous type in which the onset is often slow and insidious.

DISCUSSION

DR. HENRY SEWALL, Denver, Colo.: Are you sure enough of your apparatus to make it quantitatively reliable?

DR. S. J. MELTZER, New York: Was there any difference between the diaphragmatic and abdominal breathing?

DR. J. H. MUSSER, Philadelphia: Were there any controls in the experiments of breathing children? We all know the remarkable tricks they play with their breathing apparatus when asleep and when awake.

DR. L. A. CONNER, New York City: While all these instruments are not mathematically accurate, they are very accurate in a general way. They show the same thing in case after case. By heightening or loosening the tension of the pneumatograph we can make some difference. By relaxing sufficiently one can understand that we could get no abdominal tracing at all, but when one gets familiar with the tension to be used, one can get in the same case at different times and under different conditions usually just about the same size tracing. We used a great many controls in our work witb children.

Abdominal Tenderness with Pain Due to Thoracic Lesions

DR. ARTHUR R. EDWARDS, Chicago: I had two cases of severe, diffuse abdominal symptoms in pneumonia and in pericarditis, which completely simulated abdominal perforation or peritonitis, and in which operation disclosed no peritoneal lesion. In neither case was there the slightest symptom or sign of thoracic disease at the time of invasion. The pain was severe, early and diffuse; the tenderness was as marked on deep as on superficial palpation; and the abdominal rigidity was extreme. The usually available differential points were not helpful; the general symptoms, which generally indicate a systemic infection rather than a local condition, were absent. In this thoracic pseudo-peritonitic or pseudo-perforative symptom-complex, the abdominal muscles may be spastic, the legs drawn up, the body rigid, and collapse may intervene. The invasion symptoms indicate operation and no certain criterion exists at the onset. The majority of patients operated on recover. [This paper will appear in THE JOURNAL.]

DISCUSSION

DR. J. P. C. GRIFFITH, Philadelphia: It has been my fortune to see a good many of these cases. I have reported five cases and have one unreported case. I agree with Dr. Edwards that the diagnostic signs are not to be depended on. I have seen cases which I had no doubt were pelvic, but they turned out to be thoracic. The only thing to do is to make pretty sure before doing operation.

DR. F. P. KINNICUTT, New York: Dr. Edwards has drawn attention to an important fact that we should all consider. We are familiar with the mistakes of our surgical colleagues in cases of this kind. If we can wait, if the surgeon is not too insistent for immediate operation, we may obtain some information from examination of the blood. But often the symptoms are so impressive that the surgeon says we must operate at once.

DR. H. U. WILLIAMS, Buffalo, N. Y.: I would like to suggest the importance of fluoroscopic examination of the chest, because you get signs of pneumonia which are perfectly evident with the fluoroscope before you get any physical signs.

DR. M. H. FUSSELL, Philadelphia: No one believes more thoroughly than I in the grave importance, the absolute necessity of an early operation in abdominal cases of the character simulated by all these cases of Dr. Edwards, and yet I never approach a case which appears to be abdominal without the greatest trepidation because of the mistakes I have made myself and because of the mistakes I know others have made. There is no one symptom or set of symptoms which will enable us to make a diagnosis; it is the ensemble by which we come to our conclusion.

DR. JAMES TYSON, Philadelphia: I wish to come to the defense of the surgeon under the circumstances. In my early experiences it was the surgeon who suggested delay, and because of the well-known occurrence of such symptoms when there was no necessity for operation. Most of these cases occur in children. Operation was deferred and the child apparently recovered, but some months later the child was operated on for appendicitis and appendicitis was found, so that you can have the rule working both ways.

DR. A. JACOBI, New York: The surface abdominal pain is easily explained in such cases by the extensive connection of the pneumogastric nerve. Is there an anatomic connection which explains the intense visceral pain dependent on thoracic diseases?

DR. J. A. CAPPS, Chicago: I would like to ask Dr. Edwards whether he found any sign of involvement of the diaphragm. I think there is evidence that the diaphragmatic pleura in these cases is involved.

DR. S. J. MELTZER, New York: I have seen a man dying of angina pectoris who had been treated by one of the best men in New York for gastric catarrh and gall-stones. I have seen one patient who had been operated on and who had had pneumonia which it did not take a very careful examination to discover and he was in the hands of an excellent surgeon.

DR. HENRY SEWALL, Denver: Is abdominal pain ever noticed when the lesion is in the left lung?

DR. S. SOLIS-COHEN, Philadelphia: I wish to call attention to a case of pneumonia of the left lower lobe which had been mistaken for gastric ulcer because of vomiting of blood-streaked mucus, together with epigastric pain and tenderness. I first saw the patient after three days illness, and at this time there was no doubt of the diagnosis of pneumonia. Recently I have had three cases of pneumonia referred from the surgical to the medical ward, the patients having been sent to the surgical ward with the diagnosis of abdominal disease. The correct diagnosis of pneumonia was made by the surgeons and the patients transferred.

DR. E. LIBMAN, New York: I would be in favor of having a fluoroscopic examination made before proceeding to operation in these doubtful cases.

DR. J. C. WILSON, Philadelphia: It must be borne in mind that the early signs of croupous pneumonia consist in impaired vesicular murmur and slightly tympanitic percussion resonance.

DR. A. R. EDWARDS, Chicago There was no diaphragmatic sign. Abdominal pain may be caused by lower lobe pneumonia on either side.

(To be continued)

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION

Fourteenth Annual Meeting, held at Philadelphia, April 19-20, 1911

The President, DR. W. B. CANNON, in the Chair

Officers Elected

DR. WALTER B. CANNON, Boston, was reelected president, and Dr. F. W. WHITE, Boston, was elected secretary-treasurer.

The Importance of Tonus in the Mechanical Activities of the Alimentary Canal

DR. WALTER B. CANNON, Boston: The view that tonicity of the neuromusculature of the alimentary canal is a fundamental necessity in the appearance of rhythmic movements gives an explanation of many features regarding digestion and harmonizes many diverse observations. It gives a reasonable explanation of the existence and importance of extrinsic

motor nerves; it indicates the function of inhibitory nerves in the reduction or abolition of the tone; it accounts for the failure of efficient motility in atonic states of the stomach and intestines; it is in agreement with the observation that tonic contraction and rhythmic peristalsis reappear later in cases of general body-weakness; it fits admirably with the fact that the stomach of hungry animals is strongly contracted, for then the tonic state makes the organ ready for instant action on swallowing food. Indeed, I believe that the sensation of hunger results from tonic contraction of the empty stomach.

Stretching of the Pylorus in Benign Stenosis

DR. MAX EINHORN, New York City: I should like to speak of stretching of the pylorus in children by means of an instrument called the infantile pyloric dilating catheter. This is a flexible tube with an inflatable rubber balloon at its end. In order to introduce it beyond the pylorus, the infant must first swallow either a small duodenal bucket or a metal olive attached to a silk string. After having ascertained that this has wandered beyond the pylorus, the dilating catheter is pushed along the silk thread into the duodenum, the balloon inflated and the instrument withdrawn. I have used this method in two cases. One infant got entirely well and remained so. The other was not benefited.

For stretching the pylorus in adults, I use a new instrument called the pyloric dilator and diaphane, which consists of a pyloric dilator with a tantalum (cold) lamp at its end. The advantage of this instrument consists in the fact that it is possible by means of internal illumination to ascertain whether the end is in the stomach or in the duodenum. I have treated in this way three cases of real benign stenosis of the pylorus, with very beneficial results. In order to insure success, there must be no active ulceration in or near the pylorus, nor must the stricture be too far advanced.

DISCUSSION

DR. MORRIS GROSS, New York City: I do not think it possible to pass a tube like this through a stenotic pylorus. If Dr. Einhorn does succeed in doing so, we must infer that stenosis did not exist at the pylorus at all, or only to such an extent that stretching was not called for.

DR. A. L. BENEDICT, Buffalo, N. Y.: I cannot, as a rule, get a tube down through the pylorus. Bile on the end of a thread does not necessarily mean that the tube has entered the duodenum. A little medication will usually overcome the condition in a case of spasm.

DR. S. J. MELTZER, New York City: It does not sound very plausible that a single passage of the instrument could have been sufficient to reestablish function. In cardiospasm nobody has succeeded in stretching the cardia in so short a time, and pylorospasm is much harder to reach.

DR. C. D. AARON, Detroit, Mich.: I have dilated the pylorus in a patient sent to me by Dr. Einhorn. She has gained 8 pounds, and is increasing in weight.

DR. JESSE S. MYER, St. Louis, Mo.: Dr. Einhorn's experience proves that pylorospasm does exist. Cardiospasm can be cured by stretching. It is evident that it will stand as a curative measure in a certain number of cases.

DR. W. G. MORGAN, Washington, D. C.: In a case with symptoms of pylorospasm I passed the dilator, and the next morning was able to withdraw it at 40. That night the patient had no symptoms, but the next night they recurred. The surgeon said that on account of the nature of the scar he found, no stretching would probably have been effective. The reason the patient had no symptoms the first night after the passing of the dilator was probably the psychic effect produced on her mind by that procedure.

DR. MAX EINHORN, New York City: It is only beginning strictures that can be benefited by this method. The pylorus can close on account of the presence of a foreign body near it in the duodenum; but if, at first, there is resistance on attempting to withdraw the bulb, and later there is none, unless the diameter is greatly increased, we may conclude that there has been a real stricture.

Operative Treatment of Impermeable Cardiospasm

DR. WILLY MEYER, New York City: The cure of impermeable cardiospasm by means of dilatation is difficult or impossible. Therefore, operative measures will often be required. Von Mikulicz and Wendel attacked the cardia from the abdomen. It is said that the trouble can also be cured successfully and permanently by way of the thorax. In support of this view, I will mention a case in which a cure was obtained by means of thoracotomy, tearing the nerve filaments that enter the esophagus on each side from the pneumogastrics, and reducing the large esophageal pouch above the diaphragm with the help of a double plication.

Cardiospasm in Infants

DR. W. G. MORGAN, Washington, D. C.: I had a case of cardiospasm with dilatation of the esophagus occurring in an infant under one year of age, which was treated by Dr. Einhorn's method; and I have also had a case of cardiospasm in an adult, which had been treated by gradual dilatation with bougies, the patient failing all the time. I stretched the cardia with Einhorn's forcible cardia dilator. This patient is now eating everything, and has gained 19 pounds in weight.

Cardiospasm

DR. S. J. MELTZER, New York City: The evidence of gain in weight in the patient does not prove the correctness of the diagnosis. Twenty years ago, I described a case of cardiospasm under the term "dysphagia," giving the entire clinical course, and predicting what would be found after death. The patient died, five years later, and a partial autopsy was made, confirming my diagnosis. If you hear the esophageal sound down to the tenth or eleventh vertebra, yet find the deglutition sound in the stomach always absent, you can be sure that there is an elastic stenosis. Every time an eructation takes place, you can also hear a definite sound in the region of the cardia. In patients with cardiospasm, you do not hear this sound.

DISCUSSION

DR. J. C. HEMMETER, Baltimore, Md.: I have had very severe cases of cardiospasm in which the esophagoscope went in; but when the patient swallowed, there came a spasm, and nothing would go through. I have had only very temporary success in dilating the cardia with mechanical methods.

DR. J. KAUFMANN, New York City: Among my patients there were a surprisingly large number that dated their first attack of cardiospasm to a hot day when they had taken ice-cold soda water. Probably the first spastic contractions led to the development of erosions, which afterward kept up the irritation. Another cause for the development of erosions is hyperacidity. One should be careful not to be too ready to attribute it to a psychic basis.

DR. L. KAST, New York City: Cardiospasm is not a correct term, and should be dropped in favor of one that would indicate the function of the cardia with relation to the parts above and below. In examining a patient suffering with regurgitation of food by the fluoroscopic method, it was found that it was the contraction of the stomach that pushed the food through the whole esophagus and into the mouth.

DR. JESSE S. MYER, St. Louis: I do not quite see why, in the case mentioned by Dr. Willy Meyer, gastrostomy with forcible stretching of the cardiospasm was not tried. I do not think that the size of the pouch would constitute any contraindication to this.

DR. J. C. JOHNSON, Atlanta, Ga.: There come times, in cases of esophageal obstruction from any cause, when even an operation cannot be considered. I had such a case. Not even the smallest bougie would pass. We finally succeeded in getting a very small wire probe into the stomach. We then used an instrument to the end of which an electrode could be connected, and placed the other electrode at the back of the man's neck, turning on the galvanic current. We had an olive on the wire, and insulated to that point. In a quarter of a minute, the olive, following the probe, began to descend.

It descended a short distance at each treatment. We continued these treatments every day for two or three weeks. We had to turn on the current when we wished to draw the olive back again. The man has gained 20 pounds, and is attending to his business and there is hope of his becoming practically well.

DR. ROBERT T. MORRIS, New York City: In a case of cardiospasm, we should have a report showing that a competent ophthalmologist has eliminated the question of irritation of the vagus at the base of the brain from eye-strain; also reports that he has no loose kidney or adhesions in the bile-tract region, that he has no evidence of a neurotic temperament, and that there are no stigmata of decadence.

DR. MAX EINHORN, New York City: In order to make a diagnosis in cases of partial cardiospasm with dilatation of the esophagus, it is important to ascertain that there is absence of the swallowing sound, that no fluid enters the stomach, and that we cannot pass a probe into that organ. Patients treated by stretching the cardia eat well, do not vomit, and increase in weight; and the swallowing sound is present. Anybody who has seen a case of cardiospasm will have no difficulty in making the differential diagnosis from cancer.

DR. WILLY MEYER, New York City: My patient was too weak for an abdominal operation. It would be better for her to make sure that there was no malignant tumor at the cardia than to separate the nerves and make the double plication. I am not sure, however, whether this double plication was a necessary addition to the technic or not.

(To be continued)

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Thirteenth Annual Meeting, held at Baltimore, April 25-27, 1911

(Concluded from page 1502)

Salvarsan in Relation to Diseases of the Eye

DR. HARRY FRIEDENWALD, Baltimore: The results of the salvarsan treatment are distinctly less favorable in ocular discases than in general. Plaut's general statistics show failure in only 23 per cent. of cases. In interstitial keratitis failure occurs in 70 per cent., in neuritis 30 per cent., in optic neuritis 20 per cent., in paralysis of the ocular muscles 66 per cent. There is only a doubtful effect, if any, in atrophy of the optic nerves. On the other hand, the improvement when the remedy is effective is usually much more rapid than in general conditions, and the treatment is of shorter duration.

DISCUSSION

DR. A. G. RYTINA, Baltimore: We have treated over 100 patients with salvarsan at the Mercy Hospital, and as yet have had no deaths nor eye and ear complications. I believe that this is because we employ the intravenous method of administration.

DR. W. T. WATSON, Baltimore: Salvarsan has been effective in all the cases which I have observed, with one exception, that of a child with interstitial keratitis. The salvarsan was given in this case by the intramuscular method, on account of the patient's age. The child's condition became much worse. Later treatment by mercury and iodid brought about considerable improvement.

Certain Gynecologic Aspects of Neurasthenia and Hysteria

DR. EMIL NOVAK, Baltimore: The ordinary gynecologic patient is more urgently in need of a broad-minded specialism than almost any other type of patient. Physiologically and symptomatically, the reproductive organs are in the most intimate relationship with other parts of the body, partly through the agency of the various internal secretions and partly through the medium of the nervous system. Of the two conditions, neurasthenia and hysteria, it is probable that the latter is the less important from a gynecologic standpoint. Any unnecessary surgical interference in the ordinary case of hysteria—and such interference is usually unnecessary—is little short of criminal. Surgical treatment is called for only in the presence of well-defined and unmistakable pelvic disease, and even then in the majority of cases only when associated with distinctly localizing symptoms. Both primary and secondary neurasthenia are of interest to the gynecologist. How is one to tell, if both neurasthenia and pelvic disease coexist, in which cases the neurasthenia is primary and in which it is secondary to the pelvic condition? Principally by a conscientious study of the patient's history. The form of pelvic disease most apt to be complicated with neurasthenia is that which is associated with persistent attacks of pain. If operation be resorted to before very marked deterioration of the nervous system has occurred, the removal of the cause will usually be followed by a much more rapid and striking recovery, with a correspondingly rapid restoration of the nervous equilibrium. If the pelvic organs of the neurasthenic woman are found to be normal, even in the presence of pelvic symptoms, the treatment is not gynecologic, but is that of the underlying neurasthenia.

DR. W. T. WATSON, Baltimore: It is encouraging to see that gynecologists are now taking a broad-minded view of these matters, for this was not always so. Even now conditions are not ideal, for I have seen a good many cases in which women have been made nervous wrecks by ill-advised operations.

DR. E. B. CLAYBROOK, Cumberland: The recent advances in surgery have more or less spoiled the public, for people have come to look on operation as a cure-all. They do not realize that it must be combined with proper and often intelligent after-treatment.

The Typhoid Situation in Baltimore

DR. W. W. FORD, Baltimore: One of the most serious problems in public health in the city of Baltimore is typhoid. From Jan. 1, 1910, to Jan. 1, 1911, 235 deaths from this disease were reported to the Board of Health, while for the same time the total number of cases was 1,890. The majority of cases developed during the summer and autumn months. Typhoid has always existed in the city of Baltimore. The records indicate that there has been a gradual diminution of this disease in the city, as compared with the increasing population. In 1890 there were 247 deaths in an estimated population of 413,000, in 1909 only 136 in an estimated population of 580,000. The ten possible sources of the disease, as compiled by Assistant Health Commissioner Jones, are bathing in polluted water, raw foods, privy wells, flies, importation, contact, hydrants in yards, water wells, milk and drinking-water. Five of these have been eliminated, viz., bathing in polluted waters, water wells, hydrants in yards, importation and privy vaults. Raw foods and contact also are probably not important. A great deal of knowledge concerning the life history of flies is necessary before we can incriminate these pests. Two other sources remain to be considered—milk and water. From the uniformity of the distribution of the disease and other considerations, we do not believe that the milk-supply is at present its sole source, or even so important an element as the water-supply. As regards the possibility of a polluted water-supply being responsible for our typhoid, one fact which our investigations have brought out with great clearness is that the pollution or the concentration of the sewage takes place at the same time (it certainly did this year) that we have the largest number of cases of typhoid. Unless we adopt various preventive measures which have proved successful in other cities, we may confidently look forward to a repetition of the conditions which made the summer of 1910 a dreadful typhoid season.

The Whitehead Operation for Hemorrhoids

DR. ALEXIUS MCGLANNAN, Baltimore: The Whitehead method of excision for hemorrhoids seems to meet all the requirements better than any other method. Our results are based on an analysis of twenty-five cases operated on in the past four and one-half years by Dr. Bloodgood, myself or the resident surgeons. We have had no recurrences and no strictures. In only two cases was there a failure of primary union, both in old people, with markedly sclerosed arteries. Two patients had fecal incontinence lasting six and fourteen days, respectively. At the present time both have perfect control. There has

been no postoperative pruritus. Urinary retention requiring catheterization occurred in ten cases. Four patients were catheterized but once, the longest time that this assistance was required being seven times in four days. The average was three times in twenty-four hours, patients voiding voluntarily thereafter. For comparison, the postoperative record of five patients, operated on by clamp and cautery (3) and by ligature (2), shows that four of these five required catheterization, the longest time being three days, with an average practically the same as that given above. As an index of the postoperative discomfort, it is found that the amount of morphin or other anodyne given was less after the Whitehead than after the other operations.

DISCUSSION

DR. J. H. BRANHAM, Baltimore: The modern tendency seems to be away from the Whitehead operation, but there appears to be no good reason for this. Occasionally loss of control occurs from too long dilatation of the sphincter. The great advantage of the operation is that the whole field of work is under view.

DR. ARTHUR HEBB, Baltimore: The method I use is to excise the hemorrhoids in the long axis of the bowel, suture the mucous membrane, dissect out the external veins, and put no sutures in the skin, allowing it to retract. No anodyne is necessary; the patient is up on the second day and the bowels are moved on the third. General anesthesia is frequently not necessary. No plugs should be used in the rectum, and there should be no forcible dilatation of the sphincter.

DR. A. MCGLANNAN, Baltimore: The Whitehead operation is simple, requiring usually only about fifteen minutes. Little blood is lost. The patient should not be allowed to get up too soon on account of the danger of embolus.

The Action of Certain Intestinal Antiseptics on Gastric Digestion

DRS. JULIUS FRIEDENWALD and T. F. LEITZ, Baltimore: Marked intestinal fermentation is not an uncommon accompaniment of certain gastric affections. Intestinal antiseptics are ordinarily employed to inhibit the growth of the intestinal flora to which this abnormal fermentation is due. It is, therefore, most important to determine whether by disturbing the gastric digestion certain antiseptics are not more apt to increase the fermentation than to lessen it. In these studies the gastric secretion of an individual with normal acidity, one with a hyperacidity, one with a subacidity, and one with a marked motor disturbance were investigated. The patient was given an Ewald test breakfast, the stomach was emptied as completely as possible and then washed with a definite quantity of water. In this way the total amount of contents remaining in the stomach can easily be ascertained, from which a fairly clear conception of the motor activity can be obtained. The gastric contents were then examined for the total acidity and the percentage of free hydrochloric acid. In order to make the result as accurate as possible, a number of examinations were made under uniform conditions and the results averaged. In each set of experiments the patient was first examined under normal conditions and then again after having taken the special intestinal antiseptic for a definite period of time (eight or ten days). The antiseptic was again given with the test breakfast. The following intestinal antiseptics were administered: salol, betanaphthol, bismuth salicylate, acetylsalicylic acid, ichthalbin, thymol, salicylic acid and creosote.

The following conclusions were arrived at: 1. Most intestinal antiseptics markedly interfere with gastric digestion. 2. This disturbance varies greatly with the nature of the gastric secretion and the motility of the stomach. 3. Salol and salicylate of bismuth are the least harmful to gastric digestion; betanaphthol, acetylsalicylic acid, ichthalbin, thymol, salicylic acid and creosote are more apt to interfere with gastric digestion.

Why Do We Get Our Cancer Cases Late?

DR. E. B. CLAYBROOK, Cumberland: It is still true that in many cases the practitioner, whether through a false ambition or through a foolish pride in wishing to make the diagnosis himself, dillydallies with the patient until the time passes for a radical operation with any hope for cure. A great step will have been taken when we learn to operate for purposes of diagnosis rather than for mere treatment alone.

DISCUSSION

DR. L. J. ROSENTHAL, Baltimore: I do not believe that the physician is so negligent as he is sometimes accused of being. If a patient, for instance, has gastric symptoms, with coffee-ground vomit, etc., he is pretty apt to be turned over to the surgeon without much delay.

DR. EMIL NOVAK, Baltimore: Three stages may be described in the life history of cancer. The first, from the actual inception of the tumor to its recognition by the patient, we can hope to influence only by teaching patients to be on the lookout for certain suggestive symptoms; the second dates from this time to the period at which the patient seeks the advice of the physician, and it is in this stage that we can hope to accomplish most by popular education. The third stage lies between the recognition of the condition by the general practitioner and the surgical treatment which may be indicated. While education within the profession is of much importance, it can scarcely be said to be as vitally essential as education of the people.

Other Papers Read

The last session, on Thursday morning, April 27, was a joint meeting with the Baltimore Branch, American Pharmaceutical Association. An introductory address was delivered by Dr. William H. Welch, who reviewed the work of the Council on Chemistry and Pharmacy of the American Medical Association and other matters of joint interest to physicians and pharmacists. Dr. Samuel T. Earle, ex-president of the faculty, discussed the question of the professional relations existing between physicians and druggists. The workings of the Maryland Pure Food and Drug Law were discussed by Dr. Charles Caspari, Jr., the State Pure Food Commissioner. The defectiveness of the antinarcotic laws of the state was discussed by Mr. J. B. Thomas of the Pharmaceutical Association.

The following papers were also read: "Personal Experience with the Salvarsan Treatment of Syphilis," by Drs. A. Keidel and J. T. Geraghty; "Modern Otology and the Steadily Improving Prognosis in All Diseases of the Ear," by Dr. H. O. Reik; "Reversal of the Circulation as a Treatment for Raynaud's Disease and Senile Gangrene," by Dr. B. M. Bernheim; "Report of Case of Resection for the Cure of Ptosis of the Stomach and Colon," by Drs. J. C. Bloodgood and J. A. Chatard; "Clinical Use of Scarlet Red and Its Components in Stimulating the Epitheliation of Granulating Surfaces," by Dr. J. S. Davis.

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911

(Concluded from page 1504)

Acute Hydramnios Complicated with Ascites

DR. F. J. UNDERWOOD, Nettleton: This patient suffered from depression, dyspnea, etc. At five and a half months she was as large as if at term. Symptoms becoming grave, she was aborted and half a gallon of fluid removed. Recovery was complete. The cause is supposed to be an inflammation of the amnion, due to trauma, the patient's husband having kicked her in the abdomen two weeks prior to the trouble.

Uncinariasis a Factor in Puerperal Eclampsia

DR. W. H. ROWAN, Wiggins: In a series of cases of eclampsia a number of patients were diagnosed as hookworm subjects. All were young women subject to ground-itch. A number who were treated for hookworm nad no further trouble in subsequent pregnancies. South Mississippi is a highly infected district and the native women of that locality are peculiarly subject to toxemias and eclampsia. These cases usually occur in the country. Malaria as a factor is eliminated on account of its rare occurrence in this particular section.

DISCUSSION

DR. J. R. KITRELL, Laurel: I know of several cases of uncinariasis in which the patient died of puerperal convulsions. Just how the anemia produces these convulsions would be interesting information.

DR. I. E. EDWARDS, Canton. Does Dr. Rowan mean to condemn morphin altogether? My experience has been that that is the treatment *par excellence*. I should feel at a loss without morphin. I think if there is any one drug which should stand at the head of the list it is morphin sulphate. Of course, the thing to do is to empty the uterus thoroughly. In regard to hookworm, it may be that the parasite comes in as a secondary matter only.

DR. L. D. DICKERSON, McComb City: I think that we should all give morphin. The convulsions must be controlled, and I do not see how we can omit the use of morphin.

DR. P. R. BROWN, West Point: Those of us who have been in the practice of medicine a few years appreciate the fact that a large percentage of cases of eclampsia are due to anemia. It is quite possible that hookworm disease is a cause. I chloroform the patient and empty the uterus. The thing to do is to control the convulsions.

DR. S. E. EASON, New Albany: Hookworm disease is a reality. Many of the malarial diseases will be shown to be caused by hookworm. In so far as I have been able to discover the cause of puerperal eclampsia, it is overburdened kidney and liver.

DR. B. H. BOOTH, Drew: If these patients are under the influence of morphin it is harder to empty the uterus. The only deaths I have seen from puerperal eclampsia were in cases in which morphin was used.

DR. J. T. MEEK, Courtland: I give a good dose of calomel and sometimes use morphin. I should like to hear something about the use of tincture of veratrum.

DR. B. F. MCNEAL, Ezra: In my practice morphin has not always failed. I have used it with success, and I would not condemn it absolutely.

DR. W. H. ROWAN, Wiggins: I wished to call the attention of this society to hookworm as a factor in eclampsia. As to the treatment of eclampsia, tincture of veratrum hypodermatically, in 30-drop doses, will control the convulsions. The objection to morphin is plain when we think of what is taking place in the system. By the use of morphin we merely delay the trouble; delivery has to be considered. It has been proved that chloroform is dangerous. I do not see why we should try to hasten the delivery.

Malaria as a Difficulty in Diseases of Children—A Plea for Its Eradication

DR. S. S. CAROTHERS, Duck Hill, discussed malaria as a difficulty in children's diseases and contended that we all are prone to consider malaria as an underlying element in febrile disorders in children and to give quinin, thereby causing additional disturbances. He condemned the indiscriminate use of quinin.

DISCUSSION

DR. J. W. BARKSDALE, Winona: In my opinion, the practice of giving quinin indiscriminately is a most pernicious one. We should realize the importance of making more careful diagnoses. Use the microscope if it will be of use. We are not justified in giving quinin simply because the patient has malarial complications.

DR. L. KOHLHEIM, Guntown: I come from a section of the state where there is much malaria. It requires several months to effect a cure; it is necessary to continue the use of quinin for from two to four months. It is hard to conceive how small doses can have a very harmful effect and it is also hard to see how the quinin can do much more harm than the disease.

DR. H. L. SUTHERLAND, Rosedale: I do not think that malaria is so prevalent as is believed. I am not a strong believer in malaria in spring in the Mississippi Delta. Because we want immigrants I think it wrong to say that we have malaria all through the winter. I make blood examination and if I do not find the parasite I do not give quinin and the patient will recover as well without as with it. It was once believed that malaria was a complication of typhoid but that idea has been practically discarded. Malaria is very rarely a complication of typhoid, and I think even less frequently is it seen in the pneumonia of children.

DR. J. A. MCCOY, Picayune: Dr. Carothers' idea is utopian We must accept conditions as they are, not as they should be. I am afraid that quinin is a sort of red rag in Mississippi, and suggest that he modify his view a little in that way.

DR. S. S. CAROTHERS, Duck Hill: It was not my intention to advocate the elimination of quinin. I do not believe it possible to get rid of malaria without quinin but I do not think that quinin is the whole treatment. I believe that quinin in small doses is valueless in malaria. The constant administration of small doses merely serves to render the patient immune to its effects. We ought to have in this association a free discussion of means to eradicate malaria so that we may gather strength for the fight. We need it. In my paper I wanted to emphasize the idea that to get rid of malaria it will require concerted action. Two years of fighting by the physicians of the state would be required to get rid of it.

Surgical Aspects of Pyosalpinx

DR. W. B. JOHNSON, Greenville: Pelvic diseases call for more surgical aid than the diseases of any other space in the body. The peculiar relationship of the tubes to the outer world accounts for much infection. There are two routes by which pus in the tube may be liberated. The vaginal is preferable in most cases.

DISCUSSION

DR. J. G. GAITHER, Oxford: One point that was not emphasized was the time at which to do this operation. It should not be done till the pus in the tube has become sterile. The iodin douche has proved of value. In my brief surgical career I have seen both the abdominal and vaginal routes used. I think I shall never use the vaginal route again. One cannot get complete drainage through the vagina with a large drainage tube, and I believe that the abdominal route is preferable.

DR. I. E. EDWARDS, Canton: My experience would lead me to believe that dressing forceps would be better used in these cases.

DR. W. B. JOHNSON, Greenville: The iodin douche is very valuable in this treatment, but it cannot be used if we use the tampon.

Six Cases of Mechanical Ileus

DR. H. R. SHANDS, Jackson, reported six cases of mechanical ileus due to volvulus of ileum around a peritoneal band following a suppurative appendicitis in one case; to intussusception in two cases; to internal hernia and volvulus through omental rent in one case; to sponge left in abdomen at a former operation in one case; to adhesion of omentum to ulcerating tuberculous lymph nodes in lower lumbar region in one case. He suggested the prevention of a recurrence of intussusception by anchoring the cecum by its appendix, using the appendicostomy operation having done this with good success in one of his cases.

Surgery of the Mastoid

DR. L. C. FEEMSTER, Nettleton: Nothing offers relief or hope of permanent cure in chronic suppurations of the middle ear but free incision and removal of the offending source. In operating there are two "touch-me-nots," the facial nerve and the lateral sinus. Patients frequently object to operation, not realizing the necessity, hence the surgeon should be very plain with them and explain the situation carefully and fully.

Cancer of the Uterus

DR. J. H. JOHNSON, Brookhaven: We are too prone to wait until the diagnosis makes itself. More than 50 per cent. of uterine cancers reach the surgeon too late for operation. The solution of the whole problem rests in early diagnosis.

DISCUSSION

DR. J. S. ULLMAN, Natchez: I believe in an early diagnosis and operation.

DR. A. G. HENDON, Louisville, Ky.: This is a matter of great importance and is becoming more and more important. The methods of dealing with it are rapidly improving. Any discharge, whether it is bloody or not, from a woman past the menopause deserves a thorough investigation, and by that I mean a microscopic examination.

DR. M. HOLDER, Memphis, Tenn.: There are five symptoms, pain, hemorrhage, offensive discharge, emaciation, anemia. If we wait for the five we will probably diagnose at a stage where it will be of no use. I think it is time that an educational crusade should be begun. Women do not know that between the ages of forty and fifty there is great danger of cancer. We cannot do anything beyond a radical operation. The most radical operation that has ever been done will not effect a cure in these advanced cases of cancer. The only thing left to us is an early diagnosis. We must educate the public, but how are we going to do it? We cannot tell each individual woman. The symptoms that we know are worthless. Any irregularity in the menstrual flow, even before menopause, should be looked into. Do not be deceived by the youth of the patient, though this is a middle-age disease.

DR. J. B. BULLITT, Oxford: I wish to speak of the "patent-medicine" advertisements which are the cause of many women's deaths. We have allowed the public to go along in ignorance of these matters. There ought to be a regular campaign in the public press—a campaign of education. I think we ought to take up these matters and without prudery, and as soon as we can do so.

DR. A. G. PAYNE, Greenville: Over a year ago I wrote to an editor of a paper in this state, a paper of large circulation—the *Issue*. In looking over this paper I cut out twelve advertisements for cancer cure, etc. I wrote the editor of the wrong he was doing in publishing these advertisements. I had a letter from him saying that he did not believe that all "patent-medicines" were good, but that a paper had to depend largely on the advertisements for its support. He said he had as much confidence in some of these as in some of the "M.D.'s," whose cards he published. We are being hampered by the press, and even by the religious press.

DR. B. L. CULLY, Jackson: I have recently had two cases which have forcibly impressed on me the fact that there is another great source of trouble along this line—I refer to the Christian Science cult.

Inguinal Hernia

DR. JOHN DARRINGTON, Yazoo City, described various operations for inguinal hernia and advocated early interference. He illustrated the steps in the various operations by charts.

DISCUSSION

DR. R. E. HOWARD, Durant: I have used ether in some of these cases.

DR. H. M. FOLKES, Biloxi: I should like to emphasize the importance of not pushing the intestine but rather pulling it. I have used hot applications successfully in cases in which cold applications failed.

DR. M. HOLDER, Memphis, Tenn.: In strangulated hernia, even after six hours, the intestine has been known to become gangrenous. Taxis is a dangerous thing and particularly in strangulated hernia. It has been found that hernia is not a thing of to-day; it may have been developing for years, and on sudden exertion a sharp pain is felt and the protrusion is noticed. The introduction of catgut sutures has helped a great deal. It has been a wonder to me that not every man of 50 or 60 has had hernia. Straining at stool is a very important factor in developing hernia.

DR. JOHN DARRINGTON, Yazoo City: The point made by Dr. Howard is an excellent one. Someone has properly said that you must get rid of the sac. There must be no depression left. Dr. Holder is right in his reference to taxis. I believe that whenever a man dies of strangulation some physician is responsible for his death. We should explain to and impress on the patient the danger of strangulation.

Acute Dilatation of the Stomach

DR. J. A. CRISLER, Memphis, Tenn., reported a case of acute dilatation of the stomach following operation and made some pertinent comments on this condition.

DISCUSSION

DR. R. D. SESSIONS, Natchez: I believe that we shall accomplish a great deal of good if we wash the stomach immediately before the patient is taken off the operating table.

Conservative Treatment in Advanced Cases of Carcinoma of the Uterus

DR. J. W. BARKSDALE, Winona, advocated the use of the cautery in advanced cases of carcinoma of the cervix. He has operated on five patients in this way, giving them great relief.

DISCUSSION

DR. N. A. MCLEOD, Brookhaven: I have used the method suggested and probably prolonged life for a year or more. I have been so gratified by the good results that I expect to use the method again.

DR. M. HOLDER, Memphis, Tenn.: The doctor does not propose to cure but only to prolong life and to make life more endurable. Cancers of the cervix are much more frequent than cancers of the fundus. Cancers of the fundus are followed by cures much more frequently than are cancers of the cervix. There are several reasons why cancers are not diagnosed. Some of this blame falls on the profession and some on the laity. The time will come when women will know all about cancer of the uterus and that is what we want as guardians of the health of the people. Ignorance on the part of the laity and modesty are some of the causes of the late diagnosis. Not only this, but the saying has gone about that cancer is incurable and that causes trouble. Some people want to be kept in ignorance of cancer. But we know that some patients are curable. Any deviation from the normal menstrual flow during the cancer age should be looked into; any change in the character of the flow should be looked into; any discharge coming on after the menopause; any pain in the pelvis; these are the symptoms. Pain in the pelvis is a rare symptom, I admit.

DR. S. W. JOHNSTON, Vicksburg, said that he knew of cases of cancer not confined to the cancer age.

DR. J. W. BARKSDALE, Winona: I did not propose to convey the idea that any of these patients could be cured by a palliative operation but only that some comfort can be given. Frequently the patients have very great pain and foul discharges. Operation certainly does relieve this condition. I have seen cases in which if I had operated I could have prolonged life for some time.

Diagnosis of Some Common Diseases of the Hip

DR. W. C. CAMPBELL, Memphis, Tenn: We are too prone to diagnose a case as rheumatism. Pain in the knee is always very suspicious of tuberculosis of the hip. In these cases the treatment should be kept up for a long time, at least three years. He reported some illustrative cases.

The Duty of the State in the Conservation of Human Life and Energy

DR. H. L. SUTHERLAND, Rosedale: It is a difficult matter for our statesmen to understand that public health means public wealth. The medical association failed to get the last legislature to make an adequate appropriation for the prevention of disease in Mississippi, but the live-stock people got $40,000 to eradicate the cattle tick. This should be a consolation since it shows that the legislature is at last interested in some sort of conservation of health. A discussion of one great preventable and eradicable disease, tuberculosis,

then followed. As a business proposition, tuberculosis ought to be wiped out.

DISCUSSION

DR. C. KENDRICK, Kendrick: It has been the rule of Dr. Sutherland's life to uplift humanity. We should get to work. The way we shall have to work to get results is to work on the candidates for the legislature this summer. When we had yellow fever, a long time ago, physicians got together and worked on the candidates and were successful in getting what they wanted. The legislature appropriated money then because the people were stirred up. The state of Mississippi formerly appropriated $40,000. Now it should appropriate $100,000. Let us get to work for results.

Other discussion to the desirability of giving this paper to the press followed. The editor of the Jackson *News* requested it and offered the association 10,000 copies for educational campaign purposes. The offer was accepted and the paper ordered published.

Symposium on Malaria and Allied Conditions

DR. B. F. MCNEAL, Ezra, reported cases of urticaria, muscular cramping and rigidity and "morning sickness" in a male, due to malaria and yielding to quinin.

DR. B. H. BOOTH, Drew, gave the differential points between comatose malaria and heat-stroke, and reported several cases.

DISCUSSION ON MALARIA

DR. J. D. GILLEYLEN, Jackson: We accuse malaria too much. Clean the people out and let them alone and they will be all right. We ought to use quinin as a stimulant.

DR. B. H. BOOTH, Drew: I merely tried to show that we sometimes run across malaria which resembles heat-stroke.

DR. J. D. GILLEYLEN, Jackson, in reply to a question as to how many people in the malarial districts do not have malaria, said: We have much malaria, I know. We shall continue to have it. But we shall find by the use of the microscope that many cases are not really malaria. I do not question the use of quinin in case of malaria.

Treatment of Uncinariasis

DR. J. C. CULLEY, Columbia, described the method of using thymol in this condition.

DISCUSSION

DR. C. C. BASS, New Orleans: I want to emphasize the importance of the treatment of ground-itch. Those engaged in the health campaign are in a position to distribute information and this is more important than the actual treatment of patients. People must be educated. Tell them that hookworm disease means ground-itch and ground-itch means hookworm disease. They know what ground-itch is and where they get it. Another thing worthy of emphasis is the importance of instructing the patients how to avoid hookworm disease after they have got ground-itch. If the patients are instructed not to swallow the material they are inclined to cough up they will not be so heavily infected. In 1904 I read a paper before this body wherein I made the statement that 50 per cent. of the rural inhabitants of the state were infected with uncinariasis, and now I see that the statement was a conservative estimate.

DR. J. C. CULLEY, Columbia: The thing to do is to educate the children in the schools. We are treating a large number of patients now, but we must prevent more people from contracting the disease.

Other Papers Read

The following papers were also read: "Changes Undergone by the Brain as a Result of an Average Day's Work and in Consequence of Poisoning by Tetanus, Rabies and Such Gases as Carbon Disulphid," by Dr. Gustav Mann, New Orleans; "Normal and Abnormal Dentition," by Dr. S. A. Majure, Dixon; "Puerperal Infection," by Dr. O. N. Arrington, Brookhaven; "Twelve Months' Work in Obstetrics," by Dr. B. L. Culley, Jackson; "Gunshot Wound of the Abdomen, Amputation of Penis and Scrotum," by Dr. Julius Crisler, Jackson; "Complications of Lobar Pneumonia," by Dr. T. B. Holloman, Ittabena.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of the Johns Hopkins Hospital, Baltimore

May

1 Sir Richard Owen: His Life and Works. C. W. G. Rohrer, Baltimore.
2 A Florentine Anatomist (Leonardo da Vinci). P. Bailey, New York.
3 Embryology and Obstetrics in Ancient Hebrew Literature. D. I. Macht, Baltimore.
4 *Disseminated Caseating Tuberculosis of the Liver. W. S. Thayer, Baltimore.
5 A Peptid-Splitting Ferment in the Saliva. L. M. Warfield, Milwaukee, Wis.
6 Relationship Between the Normal and Pathologic Thyroid of Fish. J. F. Gudernatsch, New York.
7 *Tuberculous Bursitis. S. M. Cone, Baltimore.
8 *A Device to Aid in Keeping the Patient Dry After a Suprapubic Cystostomy. G. Walker, Baltimore.

4. **Tuberculosis of the Liver.**—In Thayer's case, the patient was a colored woman of 49, with a record of rather indefinite abdominal pain of a year's duration and almost continuous remittent or intermittent fever of a moderate degree, with sweating at night and progressive emaciation. Examination of the thorax showed little beyond the appearance toward the end, of rather diffuse râles throughout the lungs. During the last eight months of the patient's life there was a steady enlargement of the liver, which finally extended to a point 10 cm. below the costal margin in the right mammillary line. It was somewhat tender and very firm, and, on one occasion, slight irregularities of the surface were noted. The border which was distinct, seemed a little blunter in the right mammillary line. There was considerable anemia of a secondary type, but without leukocytosis, a persistent albuminuria and cylindruria without polyuria but with a rather low specific gravity, and, in the end, diarrhea with mucus and occult blood in the stools.

The progressively enlarging liver, the age of the patient, the anemia, the fever, which, after all, is common in hepatic neoplasms, all led toward this as a possible diagnosis, despite the fact that beyond the diarrhea with occult blood in the stools no suggestion as to the seat of a primary lesion was to be made out. The indefinite abdominal pain, tenderness and fever, together with the diarrhea occurring in a colored woman were strongly suggestive of peritoneal tuberculosis to Thayer, despite the absence of definite pulmonary signs, but the progressively and apparently great enlargement of the liver did not appear to him to depend on tuberculosis alone. He thought that a rolled up omentum might be adherent to the liver, thus increasing its apparent size, but the sharp border of the liver was against this. Syphilis was ruled out by the absence of a Wassermann reaction and by the fact that antiluetic treatment had been without result. The main possibilities as to diagnosis were hepatic neoplasm; amebic abscess of the liver; peritoneal and intestinal tuberculosis with a rolled up omentum adherent to the liver in such manner as to exaggerate its apparent size. At necropsy there was found a disseminated, caseating tuberculosis of the liver. The feature of the case, which is of special importance, is that such disseminated caseous tuberculosis of the liver should have given rise to a tumor sufficient to constitute the central figure in the clinical picture. It is also important to note that for a week at least during the course of this case there was jaundice, a rare manifestation in hepatic tuberculosis.

7. **Tuberculous Bursitis.**—The main interest in Cone's cases centers about their pathology—one representing the type of rice-body formation in a tuberculous bursa, the other a chronic sclerosing tuberculous process.

8. **A Device to Aid in Keeping the Patient Dry After Suprapubic Cystostomy.**—This device consists of a pure gum rubber sheet, one yard square, with a round hole in the center of from six to eight inches in diameter. The sheet is laid on the patient, next to the skin, so that the opening falls over the suprapubic wound. The usual amount of absorbent gauze is then laid on the wound, and the borders of the sheet are folded in, covering the gauze completely. The sheet with the

enclosed gauze is held in place by an ordinary abdominal binder or Scultetus bandage. By this arrangement whenever the gauze becomes saturated the fluid drains into the dependent portion of the sheet, where it collects and allows almost no leakage for several hours, during which time the patient's bed and clothing are kept dry.

Journal of the Oklahoma State Medical Association, Muskogee

May

9 Fractures of the Elbow. C. Blickensderfer, Shawnee.
10 Germophobia. A. K. West, Oklahoma City.
11 Diagnosis of Diseases of the Tongue. W. C. Cummings, Oklahoma City.
12 Treatment of Certain Infections of the Skin with Vaccine. W. H. Mook, St. Louis, Mo.
13 The Metric System Simplified. C. T. Scott, Oklahoma City.
14 Symptomatology and Diagnosis of Infantile Paralysis. L. J. Moorman, Oklahoma City.

Journal of the Medical Society of New Jersey, Orange

May

15 The Finished Operation with Respect to Those Done Below the Waist Line and within the Abdominal Cavity or Its Outlets. S. Chandler, Philadelphia.
16 Vaso-Repair. S. A. Cosgrove, Jersey City.
17 *Tuberculosis as It Concerns the Physician. L. F. Flick, Philadelphia.
18 Lesions of the Alimentary Tract. J. T. Pilcher, Brooklyn, N. Y.
19 *Recent Medical Advances, with Suggestions for Improvement of County and State Society Meetings. J. B. Wintersteen, Moorestown.
20 The Backward Child. C. H. Francis, Camden.

17. **Tuberculosis and the Physician.**—It is emphasized by Flick that to make a consumptive non-contagious is simple enough to the man who fully understands the subject and who is willing to direct his patient intelligently. Inasmuch as the contagion of tuberculosis is restricted to the broken down tissue which is given off and, perhaps, in some degree to the excreta, and, inasmuch as these are gross objects which can easily be seen, handled and controlled, all that is necessary is to devitalize them when they are given off without contaminating the individual who gives them off or the environment in which he lives, or at least to dispose of them in such a way that they cannot contaminate anything and cannot be brought back by any force in Nature to a person who might become infected. The only excreta which are at all likely to contain tubercle bacilli are urine and feces, and these are ordinarily deposited where the fermentation that is going on will sterilize them before they can be brought back to either human beings or animals. Practically, there is probably no danger whatever of new implantations in either human beings or animals from these sources. The chief seed supply for new implantations of tuberculosis, undoubtedly, is the sputum given off by people who have tuberculosis of the lungs, and it is this which needs to be looked after above all others.

19. **Recent Medical Advances.**—It is suggested by Wintersteen that one of the meetings of the county society be devoted to medical economics, and that another meeting be open to the public. Only when the public, which is dependent on physicians for protection from disease, is shown their disinterested motives, can physicians hope to gain the influence which is properly theirs. Also, as a means of securing favorable legislation and appropriations for sanitary purposes, such meetings would be invaluable. Finally, the importance of the education of the public school teachers on sanitation and hygiene should be urged on the proper authorities, the appointment of a member of the county society to deliver such lectures to the teachers at their county institutes should be suggested to them. This suggestion is both practical and valuable, as such an arrangement would undoubtedly be gladly welcomed and its good effects on both teachers and pupils cannot be overestimated.

Journal of the South Carolina Medical Association, Charleston

April

21 Importance of Maternal Nursing. W. F. Ashmore, Charleston.
22 Infant Feeding. J. C. Hill, Abbeville.
23 Surgical Interference and Irrigation of Colon in Pellagra. A. D. Cudd, Spartanburg.

West Virginia Medical Journal, Wheeling

May

24 Modern Surgery of the Kidney. J. Ransohoff, Cincinnati.
25 Is Anything the Matter with the Doctors? W. J. Robinson, New York.
26 Extra-Uterine Pregnancy. A. J. Kemper, West Milford.
27 *A New Sign of Tubal Pregnancy. W. W. Golden, Elkins.
28 *An Unusual Case of Superfetation (?). F. T. Ridley, Bluefield.

27. **A New Sign of Tubal Pregnancy.**—The sign found by Golden is this: A more or less striking paleness of the cervix. The absence of this paleness does not, he says, exclude tubal pregnancy, but its presence, when not due to obvious other causes, is almost pathognomonic. It is only present, however, in those cases of tubal gestation in which there is bleeding from the uterus, and only while this bleeding is actively going on. This sign, therefore, Golden considers as of value principally in the differential diagnosis from threatened or incomplete uterine abortion, but it is right here that the practitioner is in the greatest need of help.

28. **An Unusual Case of Superfetation.**—A woman, aged 28, has been married nine years and has two other children. She had a miscarriage in the latter part of 1909, and was curetted. Personal and family history was negative. When Ridley saw her, he noticed that she was badly jaundiced, and inquired as to her condition during the few weeks preceding. She said she had been feeling very well, with the exception of a decided feeling of lassitude, which she had never experienced before. Shortly before 5 a. m. he delivered her of a fine seven-pound girl baby, the placenta and membranes coming away in their entirety about half an hour later. He left the patient fairly comfortable, and when he saw her again about 11 o'clock, he directed treatment to relieve the jaundice. On Friday and Saturday, she complained of a bad odor about the bed, and also said she had not "felt her womb slip back into place." On Sunday evening, about 8 o'clock she was taken with severe labor pains, and passed a fetus and a placenta of about three months' development, in a fearful state of decomposition. After that, with appropriate treatment, she made an uneventful recovery.

Journal of the Michigan State Medical Society, Battle Creek

May

29 Surgical After-Treatment. A. W. Blain, Detroit.
30 Diagnosis of Gastric Ulcer. J. T. Watkins, Detroit.
31 Salvarsan. A. P. Biddle and R. A. C. Wollenberg, Detroit.
32 Diseases of the Thyroid. H. E. Randall, Flint.
33 *Stomach Disorders Requiring Intervention from the View-Point of an Internist. C. D. Aaron, Detroit.
34 Galvanism in Gynecology. E. Miller, Battle Creek.
35 Newer Methods for the Detection of Tubercle Bacilli, with Special Reference to the So-Called Antiformin Method. S. Ide and F. Smithies, Ann Arbor.

33. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1673.

Medical Record, New York

May 6

36 *Vaccine Therapy of Typhoid. W. H. Watters and C. A. Eaton, Boston.
37 Fibrillation of the Auricle. L. F. Bishop, New York.
38 Intravesical Irrigation in Acute Gonorrhea. M. Hünner, New York.
39 Perforating Wounds of Uterus. E. Lanphear, St. Louis.
40 The A-B-C of Ether Administration. P. J. Flagg, Yonkers, N. Y.
41 Value of Salvarsan. W. B. Trimble, New York.
42 *An Unusual Case of Placenta Prævia. Jacob Ohlbaum, New York.

36. **Vaccine Therapy of Typhoid.**—The authors refer to a report made to the hospital board on 140 typhoid patients. Some of these received vaccines sporadically, late in the course of the disease, in a relapse, or for some reason or other the treatment has not been given regularly. Excluding such there have been thirty-six persons who received the regular vaccine treatment in addition to the routine methods. At the same time seventy-one did not receive it. A study of these resulted in the following figures: Average duration of fever: untreated, 25.3 days; treated, 15.5 days. Average residence in hospital: untreated, 57 days; treated, 39 days. Percentage of reinfections: untreated, 25; treated, 9.1. Average gain by those treated: in duration of fever, 9 days; in residence in hospital, 18 days; in relapses, 15.9 per cent.

In the present paper they report their results during a more recent period with the intention of endeavoring to demonstrate the validity of their earlier claim that not only are vaccines innocuous, when properly used, but that their use confers distinct benefit on the patients, reducing the mortality, shortening the duration of the disease, and rendering relapse less liable. In all, thirty-five cases are reported. No aggravation or injury of any kind was demonstrable as a result of any inoculation. There has been a tendency to decrease the size of the dosage rather than to increase it, particularly in making the second and subsequent inoculations somewhat smaller than the first. The more serious the clinical conditions of the patient, the smaller the dose employed. This was apparently well borne out in one case that was considered to be all but hopeless. Here daily doses of one or two million bacilli were followed by gradual change for the better in the clinical symptoms.

42. **An Unusual Case of Placenta Prævia.**—In this case hemorrhages occurred at the seventh and eighth months of pregnancy. The patient was delivered by version after tamponade. Twenty-four hours later she had a chill and an abscess formed in the lower right portion of the abdomen; this abscess proved to be a gonorrheal salpingitis. After incision and drainage at McBurney's point the patient recovered.

California State Medical Journal, San Francisco

May

43 Management of Labor in Contracted Pelvis. H. J. Kreutzmann, San Francisco.
44 Cause and Treatment of Retrodisplacement of the Uterus. D. Hadden, Oakland.
45 Tuberculous Ulceration of the Rectum. W. H. Kiger, Los Angeles.
46 Rupture of the Liver. H. M. Sherman, San Francisco.
47 Skeletal Alignment and Muscular Balance in Their Relation to Pain, Function and Deformities. S. J. Hunkin, San Francisco.
48 Abdominal Myomectomy During Pregnancy. C. A. von Hoffman, San Francisco.
49 A Simple Tonsil Dissector. P. Sumner, San Francisco.
50 A Case of Thrombosis of the Central Retinal Vein. E. W. Alexander, San Francisco.
51 Xanthelasma. D. Friedlander and G. H. Mize, San Francisco.
52 Medical Notes Taken in South Africa. D. W. Montgomery, San Francisco.

Cleveland Medical Journal

April

53 *The Cardiovascular States and Treatment of the Failing Heart. L. F. Barker, Baltimore.
54 *Clinical Value of the Wassermann Reaction. R. Dexter and C. L. Cummer, Cleveland.
56 *Id. W. C. Stoner, Cleveland.
57 *Value of the Wassermann Reaction from the Viewpoint of the General Practitioner. W. O. Osborn, Cleveland.
58 A Case of Ruptured Extra-Uterine Pregnancy; Streptococcus Infection of the Pelvic Cavity and the Ectopic Sac: Recovery. H. Robb, Cleveland.
59 *Four Cases of Sarcoma of the Nose and Throat Treated with Coley's Toxins. S. H. Large, Cleveland.

53. **Cardiovascular States.**—It is pointed out by Barker that any routine or schematic method of treating cardiac cases will, in many instances, be doomed to failure. In the therapy of cardiovascular disease, as in all other therapy, individualization must be the watchword, and the condition of the patient as the whole, not simply that of his heart and blood-vessels, must be studied carefully and the interrelation of the different organs kept in mind.

54. **The Wassermann Reaction.**—This report is a study of the results of 773 reactions made on 646 patients. A number of reactions have been repeated, a fact which should add value to the study. The authors examined seventeen individuals in perfect health in whom there was no suspicion of syphilis. All gave negative results. Furthermore, they had 163 persons suffering with diseases other than syphilis, in which syphilis could be excluded with reasonable certainty. All were negative, except one case of scarlet fever. This was examined during the acute stage, and was positive. The reaction became negative at a later period in the disease. Of nineteen cases of primary syphilis, sixteen were positive; three were negative, but later became positive. In the secondary stage, the proportion of positive reactions reached from 95 to 100 per cent. With tertiary syphilis, positive reactions were secured in 90 per cent. of cases examined. So far as latent syphilis is concerned, the authors believe that in approximately 50 per cent. of the cases of syphilis considered cured, the infection is in temporary abeyance only, and may become active at any time. In a case of congenital syphilis, where the family history was absolutely negative, the reaction checked the clinical findings in spite of the history.

The authors would not regard the reaction as specific in the ordinary accepted sense of the term, as it depends on biochemical phenomena as yet not understood. In this climate, a positive reaction is a specific sign of syphilis in at least 99 out of 100 cases. In the residue, syphilis usually is not to be completely excluded. In other words, a positive reaction is a definite symptom, more definite than any previously at hand. A negative reaction carries much less weight. A single negative reaction cannot be taken as positive evidence against existing syphilis. With certain limitations, the more active the disease, the more likely is the reaction to be positive. The results of the reaction are of great assistance in treating syphilis but should be interpreted by one of experience with both the clinical and the serologic side of the question. The test can never supplant competent and exhaustive clinical observation but can aid it greatly,

56. **Clinical Value of the Wassermann Reaction.**—During a period of ten months, Stoner has tested 450 cases, making at least 800 tests. He has not found a positive reaction in every patient who gave a history of lues, but in every one in whom active manifestations were present a positive reaction has been found in the absence of recent therapy. On the other hand, he has not had a positive reaction in a single non-syphilitic condition. A constancy of the reaction has been found in cases in which observations have been made at different times. Positive findings have remained positive unless therapy was instituted, and negative findings have remained negative unless made negative by therapy, in which case they would become positive after the discontinuance of the therapy. Positive reactions have been found in a few obscure conditions in which a definite history of lues was not obtainable. In individuals treated over an extended period of time with protoiodid of mercury by mouth the reaction became negative after a course of treatment, but when therapy was discontinued for a month or two the reaction again became positive before clinical manifestations developed. Observations made in twenty-five cases classed as suspected lues, clinically diagnosed lues and non-luetic conditions showed 30 per cent. of positive reactions. Ten of these were clinically diagnosed lues with secondary and tertiary manifestations. Seven, with and without treatment, were found positive. In three, found negative, specific treatment was being carried out. One case clinically diagnosed chancroid was found positive. One individual being treated for supposed varicose ulcers had a few old scars on the face and arm but denied infection. A positive reaction was obtained and the headaches and body pains improved under iodid of potash and mercury. In a series of fifteen cases clinically diagnosed tabes and pseudotabes, 50 per cent. were found positive. Of 125 cases clinically diagnosed as primary, secondary and tertiary lues, tabes, paresis, progressive muscular atrophy, cerebrospinal lues, brain tumor, neurasthenia with indefinite history of soft chancre, paraplegia, hemiplegia, Hodgkin's disease, nephritis, arteriosclerosis, aneurysm, typhoid, pneumonia, pleurisy, cases of questionable diagnosis and normal cases, 24 per cent. were found positive. Positive reactions were not found in a single condition in which syphilis could be excluded. Ten selected cases of scarlatina in the second to the fifth week of the disease were found negative. Ten cases of diabetes mellitus were found negative. Observations made on thirty selected cases of incipient pulmonary tuberculosis were negative. Four cases of incipient pulmonary tuberculosis were found positive, two of which had clinical manifestations in the way of congenital earmarks and mucous patches in the throat that earlier were thought to be tuberculous. In twelve ward cases with various clinical diagnoses, two positive reactions were obtained, one of which proved to be cerebrospinal lues, and the other an obscure condition in

which lues could not be excluded. Thirty-five cases of idiopathic epilepsy, fifteen cases of dementia præcox, five cases of alcoholic insanity, manic depressive insanity and organic brain disease were found negative. In seventy-five cases of idio-imbecility; cretinism; Mongolian idiocy; microcephalic and macrocephalic idiocy; and feeblemindedness, in none of which was a history of lues obtainable, ten gave positive reactions: of these one patient was an idio-imbecile with congenital earmarks; eight others were imbeciles without luetic manifestations and one was a microcephalic idiot. In a series of eighty-one cases of general paralysis of the insane, 81 per cent. were found positive either with the blood-serum, cerebrospinal fluid or both. A positive Noguchi and Ross Jones globulin test was found in forty of the forty-five cases analyzed. Of the forty cases all gave a positive Wassermann and an average lymphocyte count of 35 per c.mm. Of the five cases found negative with the Ross, Jones and Noguchi tests a negative Wassermann was also found and the lymphocyte count gave an average of 10 cells per c.mm.

57. **The Wassermann Reaction.**—It is pointed out by Osborn that use should be made of the cerebrospinal fluid also in cases with nervous symptoms before resting reassured after a negative Wassermann with the blood-serum alone, for while an increased cellular content of the spinal fluid is, in certain cases, almost pathognomonic of a previous syphilis, if a positive Wassermann reaction with this fluid accompanies the lymphocyte increase it adds the finishing diagnostic touch.

59. **Coley's Toxins in Sarcoma of the Nose and Throat.**—In one of the four cases reported by Large, good results were obtained from the use of the toxins, the patient being alive three years after treatment. The original tumor was situated in the postnasal region, practically filling its left space. It had its origin from the periosteum covering the basilar process of the occipital bone. On microscopic examination, the tumor proved to be a round-cell sarcoma. In three months there was a recurrence; this time the growth was larger than ever, as it had now invaded the soft tissues of the nose. Practically the same operation, only more extensive than at first, was performed. Two weeks later (Jan. 12, 1908) injections of Coley's toxins were begun. Two months after the operation, a small growth, the size of a marble, was noticed in the old pharyngeal scar. The toxins were then injected directly into this growth every third day, with the result that the tumor entirely disappeared. On June 9, 1910, a small growth was found on the lateral wall of the pharynx. This was removed and proved to be a sarcoma. Injections were continued as before, and kept up until Dec. 3, 1910, when they were discontinued as there was no evidence of any return of the growth.

Illinois Medical Journal, Springfield

May

60 *End-to-End Anastomosis of the Abdominal Aorta, Using Absorbable Magnesium Rings. V. D. Lespinasse, G. C. Fisher and J. Violet, Chicago.
61 Treatment of Suppurative Infections of the Pleura and Lungs. C. J. Whalen, Chicago.
62 Diverticula of the Intestine. W. Cuthbertson, Chicago.
63 Salvarsan. C. Wagner, Chicago.
64 Mixed Phase of Manic-Depressive Insanity. W. L. Treadway, Jacksonville.
65 Inherited Syphilis. L. C. Pardee, Chicago.
66 Diphtheria. A. J. Butner, Harrisburg.
67 Removal of Appendix During Laparotomy for Other Conditions. A. Goldspohn, Chicago.
68 Are Reforms Necessary in the A. M. A. and Its Constituent Bodies? G. F. Lydston, Chicago.

60. A similar article appeared in THE JOURNAL, Nov. 19, 1910, p. 1785.

Kentucky Medical Journal, Bowling Green

May 1

69 Medical Ethics and Organization. W. R. Burr, Auburn.
70 Ptomain Poisoning. H. D. Rodman, Bardstown.
71 The Salicylates. T. J. Marshall, Bardwell.
72 *Diphtheria in an Institution. W. J. Thomasson, Newport.
73 Madstone. W. Blair, Glen's Park.
74 Erysipelas. W. A. Lackey, Hopkinsville.
75 Prostatitis. J. A. O. Brennan, Louisville.
76 Scarlet Fever. O. E. Senour, Union.
77 Management of Normal Labor. J. J. Adams, Munfordsville.
78 What Shall We Do with the Housefly? D. W. Gaddie, Hodgensville.
79 Significance of Albuminuria. W. F. Blackford, Louisville.
80 Treatment of Bronchopneumonia of Children. W. P. Drake, Rockfield.
81 Extra-Uterine Pregnancy. E. A. Harthill, Pewee Valley.
82 Abortion. W. W. Lasley, Lewisburg.
83 Indication and Contra-Indication for Chloroform and Ether. T. O. Helm, Bowling Green.

72. **Diphtheria in an Institution.**—The first case of diphtheria in this epidemic developed in less than forty-eight hours after a public gathering. Among the guests were people from a locality where diphtheria had been and was prevalent at the time. The health of the institution had been good and Thomasson was unable to trace the infection in any other way than by the contact of the visitors with the inmates. In sixty hours after the second case was discovered, every child (seventy-five) in the institution had an immunizing dose of 1,000 units. He used 85,000 units as single doses. Five adults had 2,000 units, this included the physicians. One child had 2,000 units, and five adults had 1,000 units. After the immunizing dose of 1,000 units no further cases occurred till the twelfth day, when a girl 21 years of age went down with the disease. This girl had not been exposed after receiving her immunizing dose of 1,000 units till on the eighth or ninth day after receiving the antitoxin. On this day she dressed a child after death (the only one in the series) and on the twelfth day after the protective dose developed the disease.

Ohio State Medical Journal, Columbus

May

84 Medical Ethics from the Viewpoint of a Layman. W. O. Thompson, Columbus.
85 Ten Cases of Rupture and Gangrene of the Gall-Bladder as an Emergency Condition. H. J. Whitacre, Cincinnati.
86 Cystitis in the Female. H. A. Baldwin, Columbus.
87 Test of Insanity in the Criminal Courts. W. A. Carey, Cleveland.
88 Indications for Operating in Cancer. G. M. Todd, Toledo.
89 Infant Mortality; Its Principal Causes; Prophylaxis. A. F. Furrer, Cleveland.
90 Medical Evolution; an Interpretation. D. S. Gardner, Massillon.
91 A Case of Bilateral Ophthalmoplegia Externa with Bulbar Symptoms. F. W. Alter, Toledo.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

May

92 *Test of Labor in General and Hospital Practice. R. Peterson, Ann Arbor, Mich.
93 *Menstrual Disorders of Obscure Origin. H. C. Coe, New York.
94 Twenty-Five Cesarean Sections with no Fetal or Maternal Mortality. O. P. Humpstone, Brooklyn, N. Y.
95 A Case of Primary Ovarian Pregnancy. I. C. Rubin, New York.
96 The Chamberlens and the Obstetric Forceps. C. B. Ingraham, Denver.
97 Case of Torsion of the Normal Uterine Appendages. C. C. Norris, Philadelphia.
98 Pulmonary Embolism and Thrombosis from the Obstetric Standpoint. C. Foulkrod, Philadelphia.
99 Fibroids of the Uterus Complicating Pregnancy, Labor and the Puerperium. J. F. Moran, Washington, D. C.
100 The Present Status of the Midwife. T. Darlington, New York.
101 Influence of the Midwife on Infant and Maternal Morbidity and Mortality. R. W. Lobenstine, New York.
102 *The Remedy for the Midwife Problem. J. C. Edgar, New York.
103 Gynecology and the Country Doctor. B. R. McClellan, Xenia, Ohio.
104 Delinquent Children from a Medical Standpoint. S. Block, Brooklyn, N. Y.
105 Atypical Aberrated Children. E. H. Bartley, Brooklyn, N. Y.
106 Abdominal Rheumatism. LeG. Kerr, New York.
107 A Study of Infant Mortality. I. J. Hill, New York.

92. **Labor in General and Hospital Practice.**—Peterson points out that it will make considerable difference in the practical application of the test of labor whether the patient be at home or in a well-appointed maternity. If in the latter, one need not wait so long, for operative treatment by skilled hands, when vaginal examinations have been reduced to a minimum and made under the strictest aseptic precautions, is a far different procedure as regards mortality and morbidity, than when similar surgery is performed in private residences. In the border-line cases of pelvic contraction the patient should be given every chance for spontaneous delivery before operative interference is instituted. Forceps should then be gently applied. In case of failure and in the presence of possible sepsis, it is far better to perforate the child rather than to attempt abdominal Cesarean section. In this way the chances are in favor of saving one patient. The abdominal operation, he asserts, means the loss of both in a large percentage of cases.

93. **Menstrual Disorders of Obscure Origin.**—Inasmuch as in many cases of painful menstruation, the dysmenorrhea is not due to minor palpable changes in the uterus or ovaries, as is proved by the fact that they are not permanently relieved by operation, Coe feels that the conclusion is forced on us that such cases belong to the neurologist rather than to the gynecologist. Hence the propriety of careful observation of the patient, a guarded prognosis, and less frequent resort to operation before fair trial has been made of local and general treatment.

102. **Remedy of the Midwife Problem.**—A general outline of the plan suggested by Edgar would include the following propositions:

1. The establishment of schools for midwives in such existing out-door maternity services as shall elect to do so.
2. The establishment of out-door maternity services, in connection with existing maternity hospitals which do not already possess them, for use as schools for midwives.
3. In each maternity service teaching midwives, the establishment of a school for midwives, with teachers appointed especially for the teaching of this class of pupil.
4. Rooms should be set aside for lectures, recitations, demonstrations, and drilling in asepsis and the examination of pregnancy. For this last patients applying for care during confinement should be utilized.
5. Time not occupied in attending cases of confinement in their own homes, or in lectures, demonstrating, and so on, could be used in witnessing operations and confinements in the delivery-room of the hospital proper.
6. The bulk of the instruction should be given by paid instructors in the patient's own home. Eventually the more intelligent of the graduate midwives of various nationalities could, with advantage, be appointed as instructors in the schools for midwives.
7. Text-books for the instruction and use of the midwives would naturally appear as the result of such teaching as has occurred on the continent of Europe.

Lancet-Clinic, Cincinnati

May 6

108 *Standardization of Bacterins. R. T. Pettit, Chicago.
109 Surgical Contra-Indications. B. M. Ricketts, Cincinnati.
110 The Research of the Practitioner. H. R. Alburger, Bloomington, Ind.

108. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

Yale Medical Journal, New Haven, Conn.

March

111 *Use of Silver Wire for Fractures of the Patella. J. E. Root, Hartford, Conn.

111. **Silver Wire for Fractures of the Patella.**—Root is a firm believer in the operative form of treatment for fracture of the patella. Of the forty-three cases reported, he wired thirty-nine by the open method and four were treated by the ordinary means of external strapping and bandage. The result in all operative cases was early union and function. In the patients not operated on, the result was good functional recovery. There were no deaths in this series; no case of infection; and no case of removal of wire. Root emphasizes that fractures of the patella, in which the capsule and lateral ligaments are intact and fragments are not separated, can be successfully treated without operation. Fractures of the patella with wide separation of fragments, he would treat by the open method. Root uses silver wire of No. 16 caliber passed through the anterior two-thirds of fragments.

St. Paul Medical Journal

May

112 *Feeding in Typhoid. E. J. Abbott, St. Paul.
113 Present Status of Functional Kidney Tests. P. B. Cook, St. Paul.
114 Gall-Stones. T. Mann, Minneapolis.

112. **Feeding in Typhoid.**—Abbott advocates a more liberal diet and longer intervals between feedings.

Interstate Medical Journal, St. Louis

May

115 Treatment of Club-Foot in Infancy. D. Silver, Pittsburg, Pa.
116 *Management of Children Predisposed to Nervousness. L. F. Barker, Baltimore.
117 *Chronic Hypersecretion. J. A. Storck, New Orleans.
118 Perineal Prostatectomy: Its Preliminary Treatment and After-Care. J. R. Caulk, St. Louis.
119 Subconscious Phenomena. S. P. Goodhart, New York.
120 *Later Views on Pellagra. F. Eskridge, Atlanta, Ga.

116. This article was also published in the *Bulletin of the Medical and Chirurgical Faculty of Maryland*, March, 1911, and was abstracted in THE JOURNAL, March 18, 1911, p. 850.

117. **Chronic Hypersecretion.**—The necessity of viewing every patient with chronic hypersecretion as an initial case of gastrectasis, is emphasized by Storck, as also, the fact that the primary cause of the hypersecretion should be carefully looked for with the object of instituting early and proper treatment. In a patient under treatment, Storck interdicted smoking. Rest and quiet are advised. Methodical lavage with a quart of warm water containing a teaspoonful of bicarbonate of soda was suggested before retiring, if nocturnal pain and vomiting should recur; otherwise the lavage was to be practiced in the morning before breakfast. The following prescription was ordered to be taken after meals:

℞	gm.	or c.c.	
Pulveris radicis rhei	1	33	ʒi
Sodii bicarbonatis	8	or	ʒii
Magnesia usta	14		ʒiiiss

M. et fiat. pulvis.
Sig.—Half teaspoonful in water after meals.

For the pain, menthol and spirits of chloroform were prescribed. The diet advised for the present is to consist chiefly of whites of eggs, cream, olive oil and salt-free butter. If the condition continues to improve, the diet is to be made more liberal; but should food stagnation prove troublesome, a competent surgeon is to be consulted.

120. **Pellagra.**—Eskridge believes that pellagra is not essentially a corn disease and that it may be found under conditions that absolutely eliminate corn from the possible causes.

Memphis Medical Monthly

March

121 *Diagnosis and Treatment of Kidney Stones. W. S. Anderson, Memphis.
122 Aids in the Diagnosis of Nervous Diseases, with Special Reference to the Reflexes. W. G. Somerville, Memphis.
123 Aneurysms of the Abdominal Aorta. W. T. Pride, Memphis.
124 *Benign Tumors of the Uterus. E. M. Holder, Memphis.
125 Use of Quinin and Urea Hydrochlorate as a Local Analgesic. A. E. Cox, Helena, Ark.

Dominion Medical Monthly, Toronto

May

126 *An Unusual Complication of Small Ovarian Cysts. J. F. W. Ross and A. C. Hendrick, Toronto.
127 *A Skin Eruption in Six Consecutive Cases of Poliomyelitis. A. G. Brown, Toronto.
128 Salvarsan. G. Chambers, Toronto.
129 Membranous Pericolitis. J. P. Kennedy, Wingham, Ont.

121 and 124. Abstracted in THE JOURNAL, Dec. 10, 1910, pp. 2090 and 2091.

126. **Complication of Small Ovarian Cysts.**—In this case a subligamentous ovarian cyst was tightly bound down to the rectum and lateral pelvic wall by rather dense adhesions, compressing the iliac veins, both internal and external. The left leg was enormously congested and almost one-third larger than the right. The swelling extended from the toes to the groin. The interesting feature in the case is that an ovarian cyst about the size of an orange could cause so much obstruction, especially when one remembers how fluctuating a cyst of that size usually is. The explanation is purely mechanical, and the symptoms were due to the cyst being bound down in a most unusual manner by adhesions to the wall of the true pelvis.

127. **Skin Eruption in Poliomyelitis.**—The skin eruption described by Brown appeared in six consecutive cases and followed the same course in each case. In each of the six cases a vesicular eruption was present when the patient was first seen. The rash was typical, being present more or less all over the body, papular and vesicular, more especially on the lower extremities, anterior and posterior surfaces, and on the dorsum of the feet. The lumbar punctures, smears and cultures from the serum of the vesicles have shown no uniform results, while sections through the vesicles show the latter not to be deep-seated, as one would imagine on palpating them, but on the contrary, to be only superficial, i. e., between the malpighian and corneous layers of the skin; and apart from a little perivascular infiltration no other pathologic change could be found.

Mississippi Medical Monthly, Vicksburg

May

130 Apomorphin Hydrochlorate as an Antispasmodic. L. D. Harrison, Clarksdale.

American Journal of Surgery, New York

May

131 Stricture of Urethra; Why Stricture Is Less Prevalent than Formerly; Errors in Diagnosis. G. K. Swinburne, New York.
132 Dilatation of the Male Urethra, with Especial Reference to Mechanical Dilators. C. W. Bethune, Buffalo, N. Y.
133 Sterilization of Woven Catheters and Their Aseptic Conservation. M. W. Ware, New York.
134 Hydrocele. J. R. Alvarez, New York.
135 A Criticism of Bevan's Ligation of the Cord for Undescended Testicle. E. H. Eising, New York.
136 Case of Inguinal Ectopia Testicle Operated on After the Method of Bevan. L. W. Allen, San Francisco.
137 Clinical Peculiarities of Gonorrhea in Child-Bearing Women. B. C. Hirst, Philadelphia.
138 Supravaginal Hysterectomy in Double Gonorrheal Salpingitis. C. R. Hyde, Brooklyn, N. Y.
139 Criticism of the Technic of Ureteral Catheterization of Dr. Howard Kelly. A. H. O'Neal, Wayne, Pa.
140 *Two Cases of Extraperitoneal Transplantation of Ureters Into the Rectum for Extroversion of the Bladder. J. V. Arumugum, Bangalore, India.

140. **Transplantation of Ureters.**—Aug. 20, 1906, a boy, aged 18, was operated on for extroversion of the bladder and the ureters were transplanted into the rectum, according to the method advised by Peters, of Jaranto. The patient was discharged from the hospital fifty-eight days after the operation. At the time he left the hospital he was able to retain urine in the rectum for about four hours during the day and for nearly nine hours at night. April 15, 1907, a boy, aged 13, had the ureters transplanted into the rectum for extroversion of the bladder and was discharged from the hospital three months after the operation. This patient was able to retain urine in the rectum for about four hours during the day and for nearly five hours at night at the time of his discharge. Feb. 16, 1911, the second patient was able to retain urine in the rectum for nearly six hours during the day, and was at times disturbed at night only once between 9 p. m. and 6 a. m. The first case of extroversion of bladder was last seen by Arumugum about three months ago, when the patient was able to retain urine in the rectum for from five to six hours during the day and for nearly eight hours at night.

Maryland Medical Journal, Baltimore

May

141 The Profession of Medicine and Its Relation to the State. F. B. Smith, Baltimore.
142 Financing of State Board Work. H. Harlan, Baltimore.
143 The Medical Fathers of Baltimore County, Maryland. W. J. Todd, Mt. Washington.
144 Bacterial Vaccines in Staphylococcus Infections. H. W. Stoner, Baltimore.

St. Louis Medical Review

April

145 *Cervical Ribs. R. E. Schlueter and A. F. Henke, St. Louis.
146 Progress of Genito-Urinary Surgery in the Last Twenty-Five Years. F. Kreissl, Chicago.
147 Treat Only After Making Your Diagnosis. F. R. Burdeno, Garrett, Ind.
148 Conjunctivitis (Ophthalmia) Neonatorum. S. H. Brown, Philadelphia.
149 Simplest and Best Treatment for Fracture of the Femur. R. Peter, Chicago.
150 Puerperal Sepsis or Mastitis. J. E. Dale, Fort Collins, Colo.
151 Case of Colon Necrosis. E. A. Babler and L. S. Luton, St. Louis.
152 Tabes Dorsalis and Excessive Venery. L. H. Mettler, Chicago.

145. **Cervical Ribs.**—In this case, the pressure of the supernumerary rib on the subclavian artery encumbered the heart in a somewhat similar manner as does an aortic stenosis, though to a much milder degree. And, although the difference in the radial arteries amounted to but 15 c.mm. of mercury, it produced an appreciable effect on a heart that had already to contend with another lesion.

Atlanta Journal-Record of Medicine, Georgia

April

153 Mayfield-Tyzzer Hospital for Men at Laichon Fu, China. J. M. Gaston, Laichon Fu, China.
154 The Social Evil: Its Prevalence and Results. R. R. Kime, Atlanta.
155 Obligations of the Medical Profession. F. Bradley, Atlanta.
156 Treatment of Anterior Poliomyelitis. T. Toepel, Atlanta.

New York Medical Journal

May 6

157 Analysis of Results Obtained in the Treatment of Syphilis with Salvarsan. J. A. Fordyce, New York.
158 Therapeutics of Syphilis. V. C. Pedersen, New York.
159 *Typhoid Cholecystitis. J. E. Summers, Omaha, Neb.
160 *Fatal Case of Hemorrhagic and Gangrenous Varicella. F. C. Knowles, Philadelphia.
161 *An Important Factor in Circulation. A. Rose, New York.
162 Cinematographic Demonstration of Normal Gastric Peristalsis and Its Importance in Diagnosis of Carcinoma of the Stomach. G. E. Pfahler, Philadelphia.
163 *Test Breakfast versus Fasting Stomach Contents. A. Goldman, New York.
164 A Possible Source of Error in Gastric Analysis. C. S. Fischer, New York.
165 Quinin and Urea Hydrochlorid as a Local Anesthetic. W. Green, Louisville.

May 13

166 *Universal Congenital Asthenia. C. L. Greene, St. Paul, Minn.
167 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
168 *Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
169 A Case of Typhoid Osteomyelitis Successfully Treated with a Vaccine. R. C. Rosenberger, Philadelphia.
170 Pupillary Disturbances in the Alcoholic Psychoses. F. M. Barnes, Washington, D. C.
171 Salvarsan in Syphilis. V. C. Pedersen, New York.
172 *A Bacteriologic Study of the Human Bile. P. F. Williams, Philadelphia.
173 *Visceroptosis, an Improved Abdominal Binder. H. Weinstein, New York.
174 Open Treatment of Fractures. W. H. Taylor, Port Arthur, Ont.

159. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 299.

160. **Hemorrhagic and Gangrenous Varicella.**—The case reported by Knowles shows that there is probably a true form of hemorrhagic varicella, starting with the usual type of vesicles with clear contents, which some hours after their formation become filled with blood. However, it is a rare complication of varicella. The latter hemorrhagic vesicles may lead to the formation of gangrenous areas. The case of the author comes under this heading. The virulence of the infection and the resistance of the individual govern the hemorrhagic and gangrenous tendency. There is also a true form of varicella, in which the contents of the vesicles become purulent and may lead to gangrenous areas, but usually to the ecthymatous or impetigenous types. The term varicella gangrenosa should be applied only to cases of gangrene directly caused by varicella. The term dermatitis gangrenosa infantum should be applied to cases of gangrene in children, whether associated with varicella or not, if not directly dependent on that condition.

161. **An Important Factor in Circulation.**—Rose cites the case of an elderly gentleman suffering for several years from attacks of vertigo and unconsciousness. Almost daily, sometimes hourly, and even at shorter intervals, the alarming symptoms appeared. The frequency of the pulse was from 27 to 31 beats in the minute; only every second contraction of the heart caused pulsation. All the physicians who saw the case diagnosticated, quite correctly, myocarditic affection and treated him accordingly, but without success. The enormously distended abdomen of the patient had at first not been taken into consideration. The reduction of its size, although it did not cure the diseased myocardium, was followed by cessation of the attacks of vertigo and unconsciousness. The size and the weight of the abdomen having been reduced, the work of the heart was materially relieved to such an extent that even the imperfect contractions were sufficient to fill the brain with the necessary amount of blood. Rose urges that in cases of dyspnea and pulmonary hemorrhage caused by heart affection, one should apply the abdominal belt.

163. **Test Breakfast vs. Fasting Stomach Contents.**—While Goldman does not object to the test breakfast, he found that for diagnostic purposes in routine work, not only is pumping of the fasting stomach more convenient, but it is of much more value, even for absolute diagnosis, in some cases. The test breakfast in all the cases examined by Goldman was of no value at all, except where no free hydrochloric acid was found in the fasting stomach contents, and when the breakfast was given, it served only to substantiate the diagnosis previously made from the fasting stomach contents. In cases in which the breakfast was given and a diagnosis made on

that alone, after the fasting stomach was pumped, it had to be changed in many cases; while, if fasting stomach contents were obtained, the diagnosis was, as a rule, not changed after the test breakfast was given.

166. **Universal Congenital Asthenia.**—The clinical history of this condition is reviewed by Greene. Greene says that assuming with Stiller, who was the first to call attention to it, that a large number of persons are born asthenic and that this defect involves every structure and function of the body, one can readily follow his argument, which brings into one pathologic circuit a multitude of ailments hitherto regarded and treated as separate and distinct conditions. Among these are the so-called phthisical habitus, neurasthenia of the commoner type, certain apparent renal inadequacies, functional albuminurias, nephroptosis, enteroptosis, and that enormously predominant group of dyspepsia, known as the gastric neuroses. Stiller insists that an abnormally fluctuating or actually floating tenth rib (*costa decima fluctuans*) is almost pathognomonic of this condition, and this Greene believes to be true, though to him the general structural stigmata are even more interesting. There is absolutely no limit to the pain manifestations of asthenia. These may be such as to point to relaxation of the sacro-iliac ligaments, to chronic neuralgias, trifacial, sciatica, or what not, to uterine disease, gastric or duodenal ulcer, gall-stones, or derangements of almost any organ of the body, yet whatever the location and how great the intensity, they disappear like magic under rest and proper nutrition.

168. **Nervous Affections and Adjustments of the Eyes.**—In this paper Stevens considers facial expression as influenced by the adjustments of the eyes and as elements in the etiology of certain important nervous disturbances.

172. **The Human Bile.**—One hundred and one specimens of bile were studied by Williams, and, in addition, twelve calculi were examined. Of this number, organisms were recovered in eight cases, and from the calculi organisms were recovered in six instances. The organisms that were observed most frequently were those of the colon type. In thirty-seven, pure cultures of the colon bacillus were present, and, in association with other organisms, *Bacillus coli* was observed thirty-five times. The typhoid bacillus was recovered in two instances: one, in which typhoid fever had existed thirteen years previously, and in the second instance, from a person dying as a result of typhoid perforation. A very interesting observation was made regarding the presence of a large Gram-positive bacillus which was found in twenty-six cases. This organism was morphologically and tinctorially identical with the *Bacillus aeorgenes capsulatus*. This organism developed abundantly in the bouillon cultures where colon and other organisms developed, and in a number of instances anaerobic cultures.

173. **An Improved Abdominal Binder.**—This binder is built on the same principle as all the others having, however, as an extra enforcement six elastic straps, three of which arise from each side of the body of the binder. These straps cross posteriorly and when brought around to the front are buckled, thus affording additional support to the bandage. The tighter the straps are drawn the more snugly does the bandage hug the abdomen and there is no possibility of its loosening. The four lower straps push the abdominal wall upward and backward and retain it in that position. The upper two straps are made use of in stout individuals only.

Texas State Journal of Medicine, Fort Worth

May

175 Case of Increased Intraventricular Tension; Operation and Recovery. C. Venable, San Antonio.
176 Growing Disuse of Alcohol in Therapeutics. M. J. Bliem, San Antonio.
177 How the Roentgen Ray Aids Nature in the Cure of Intractable Skin Diseases. G. D. Bond, Fort Worth.
178 Case of Hereditary Ataxia or Family Ataxia. J. S. Turner, Dallas.
179 Posttyphoid Necrosis of the Thyroid and Arytenoid Cartilages. Microtia. S. M. Morris, Galveston.
180 Case of Syringomyelia. L. B. Jackson, San Antonio.
181. What the General Practician Should Know About the Eye. D. T. Atkinson, Dallas.
182 Indications and Contra-Indications for Curettage. C. M. Yater, Roswell, N. M.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 29

1 Persistence of Disease Germs in the Human Body. Sir H. C. Cameron.
2 *Salvarsan and Arsenic Cancer. Sir J. Hutchinson.
3 *The Place of the Hospital in a Civilized Community. L. E. Shaw.
4 *The Syphilitic Factor in the Hemiplegias and Diplegias of Infancy and Childhood. C. R. Box.
5 Roentgen-Ray Therapy. J. R. Riddle.
6 Extensive Venous Infection Complicating Middle-Ear Disease: Thoracic Empyema: Recovery. N. Patterson.
7 Three Cases of Malignant Disease of the Spine. T. D. Luke.
8 Cases Under the Workmen's Compensation Act, and Others of Medicolegal Interest. L. A. Parry.
9 Radium Water Therapy. W. Armstrong.

2. **Salvarsan and Arsenic Cancer.**—On the basis of a long experience with arsenic, Hutchinson believes himself justified in stating that it is proved that the use of arsenic may create a proclivity toward malignant forms of growth. These are not by any means always the same; most conspicuous and frequent are epitheliomata, but they are not the only ones, for various forms of sarcomata and probably endotheliomata occur in the same connection, and possibly in the same individual. Since he became aware that arsenic gives proclivity to cancer, he has almost abstained from its employment, and would now advocate its use only in cases which very specially demand it. Hutchinson calls special attention to salvarsan in this connection.

3. **Place of the Hospital in a Civilized Community.**—Shaw's paper is based on four propositions: 1. That no community can regard itself as civilized which does not recognize a common duty to render medical assistance to those of its members whose conditions of health make such assistance necessary, and whose economic position does not enable them to secure it. 2. That it is undesirable for any civilized community, as at present organized, to provide without cost medical assistance for all its members regardless of their economic position. 3. That every civilized community should encourage its members to make provision by some method of mutual insurance against those insurable risks which without such assistance they are unable to meet. 4. That in every civilized community specialization of effort is essential to effective performance.

4. **Syphilitic Factor in Infantile Hemiplegia.**—The general consensus of opinion is that syphilis is not a general factor in the upper neurone paralysis of childhood, and this opinion appears to be based on very good grounds. Nevertheless, Box points out that a reconsideration of the part syphilis plays may be instructive and appears to be desirable for two reasons: First, because, in some cases at least, a permanent and crippling disability of both body and mind may be prevented by an intelligent anticipation of events; and, secondly, because, thanks to the methods of diagnosis perfected of late years, it may yet turn out that syphilis is a more important factor in the production of these paralyses than many have suspected. He refers to a considerable number of cases which he thinks are proof in favor of his views.

Lancet, London

April 29

10 Plague. Wu Lien-Teh (G. L. Tuck).
11 *Sensibility of the Gastro-Intestinal Tract in Health and Disease. A. F. Hertz.
12 The Microbic Factor in Gastro-Intestinal Disease and Its Treatment. B. Dawson.
13 *Cases of Advanced Tuberculous Joints Treated by Ileocolostomy. H. Chapple.
14 A Case of Lymphadenoma in a Woman Aged Sixty-Three. E. P. Stratford.
15 Two Cases of Acute Intussusception and Appendicitis. L. C. Martin.
16 The Septicemic and Pneumonic Plague Outbreak in Manchuria and North China. G. D. Gray.

11. **The Gastro-Intestinal Tract in Health and Disease.**—The experimental and clinical investigations of Hertz lead him to the conclusion that the view held by Ross is correct, and that disease of the alimentary canal may cause true visceral pain, which is often present alone, but may be associated with pain which is referred to the skin, muscles and connective tissue connected with the same spinal segments. In drawing

the conclusion that the viscera are insensitive, he says that Lennander and Mackenzie did not take into consideration the fact that a nerve-ending may be sensitive to one form of stimulation—the adequate stimulus—but insensitive to all others. Thus the adequate stimulus for the eye is light, for the ear sound, and so on, although in some cases there may be several varieties of adequate stimulus. All that was proved by Lennander and Mackenzie was that the viscera are insensitive to the particular stimuli which they employed. These stimuli were cutting, pinching and pricking, none of which occur under natural conditions. It still remained possible that the viscera would be found sensitive were the adequate stimulus employed. From a consideration of the common causes of visceral pain, it might be expected that tension on the fibers of the muscular coat would prove to be the adequate stimulus, and the observations which Hertz records confirm this view. A certain degree of distension leads to the sensation of fulness if the internal pressure is slowly raised; the same distension rapidly produced leads to the sensation of pain. Hertz believes that tension is the only cause of true visceral pain. Disease in the alimentary canal is often accompanied by pain due to its extension to the parietal peritoneum and sensitive subperitoneal tissue, to drag on its peritoneal attachments, as suggested by Lennander, and to reference to peripheral structures, in accordance with the views of Hilton, Lange, Ross, Head and Mackenzie. On the other hand, referred pain, which is the result of the arrival in the spinal cord of impulses from an internal organ, is comparatively rarely present alone, as the impulses from the internal organ generally themselves give rise to visceral pain. Lastly, pain originating in the peritoneum in connection with diseases of the alimentary canal is not uncommon in the absence of visceral pain.

13. **Tuberculous Joints Treated by Ileocolostomy.**—Following out Lane's suggestion and procedure, Chapple has done an ileocolostomy on patients suffering from advanced tuberculous joints, who showed the signs of intestinal auto-intoxication. In each case, the patient has gained in weight, and the tuberculous lesion has most definitely improved. He believes that these cases apparently prove the hypothesis that the route of infection of the tuberculous virus is via the intestine; that a tuberculous infection is only curable when reinoculation is prevented, and that advanced tuberculous lesions can be cured if the disposing cause is removed.

Australasian Medical Gazette, Sydney

March

17 Epilepsy. J. Bentley.
18 Rôle of the Bacillus Typhosus in the Etiology of Typhoid. J. B. Cleland.
19 Ulcerative Granuloma. E. S. Jackson.
20 Infective Granuloma. J. B. McLean.
21 Melena Neonatorum. G. H. Evans.
22 A Case of Intussusception Successfully Treated by Resection. B. Smeaton.
23 Glycosuria in Head Injuries. C. Douglas.
24 Salvarsan in Syphilis. A. E. Finckh and R. J. Millard.
25 A Handy Apparatus for Injection of Salvarsan. J. F. Flashman.
26 Two Cases of Infection by the Micrococcus Catarrhalis. J. W. B. Bean.

Indian Medical Gazette, Calcutta

April

27 Malarial Cachexia and Value of Arylarsonates in Treatment. H. W. Pierpont and H. W. Acton.
28 *Three Cases of Pseudomuscular Hypertrophy in One Family. R. H. Castor.
29 Jail Dysentery. W. Gillitt.
30 Bismuth Paste in Diagnosis and Treatment of Chronic Suppurations. F. P. Maynard.
31 Examination of the Feces for Ova of Intestinal Parasites. J. Taylor.

28. **Three Cases of Pseudomuscular Hypertrophy in One Family.**—The father and mother of the family and their ancestors were apparently healthy. The three children affected out of a family of ten, were the eldest boy, now 13 years old; a boy 5 years old, and another boy 17 months old. The poorly developed external genital organ was noticed in all the cases, especially in the eldest boy. The knee-jerks, especially in the second case, were slightly exaggerated. The superficial reflexes in all were normal and so were the sensory functions and sphincters. The pain on deep pressure was complained of in all the cases. The keloid character of the vaccination marks is a point to be noticed. The fifth, ninth and tenth children were affected. The father positively states that the other children, except the sixth and eighth, also showed signs of enlargement of their muscles when they were young, but this disappeared in two years. None of the children were mentally deficient, neither was there any indication of stammering in speech.

Australian Medical Journal, Melbourne

March

32 Vaccine Therapy. J. Smith.
33 Results of Vaccine Therapy. W. H. Summons.
34 Nature and Diagnosis of Sore Throat. S. V. Scholes.
35 Treatment of Sore Throat, with Special Reference to Diphtheria. C. V. Mackay.
36 Anteflexion and Uterine Hypoplasia. F. Meyer.
37 Action of Eserin on the Eye. J. W. Barrett and W. F. Orr.
38 Cases of Hydatid of the Lung Treated at the Children's Hospital from 1904-1910. R. M. Downes.

Journal of Tropical Medicine and Hygiene, London

April 15

39 Rôle of the Infective Granule in Certain Protozoal Infections as Illustrated by the Spirochetosis of Sudanese Fowls. A. Balfour.
40 *Three Unusual Necropsy Reports from British Guiana. E. P. Minett.
41 Occurrence of Esophagostomum Aplostomum as an Intestinal Parasite of Man in Nigeria. R. T. Leiper.

40. **Three Unusual Necropsy Reports.**—These cases were (1) hydatid disease of the kidney; (2) gumma of the spleen and (3) abscess of the spleen.

Annales de Médecine et Chirurgie Infantiles, Paris

April 15, XV, No. 8, pp. 241-272

42 *Epidemic Cerebrospinal Meningitis. R. Debré.
43 Rebellious Multiple Bone Lesions from Inherited Syphilis Cured by Single Injection of Salvarsan. M. Savarlaud.

42. **Epidemic Cerebrospinal Meningitis.**—Debré has already published fourteen articles bearing on this disease, and he here reviews what is known in regard to prophylaxis. His research and what others have published show, he says, that fully 25 per cent. of the persons in the environment of a case of epidemic meningitis carry the germs without presenting signs of illness. In a schoolroom, for instance, where one of the children has had meningitis, a fourth of the children will be found to shelter the meningococcus in the nasopharynx. The diffusion of the germs is more marked the lower the hygienic level of the environment; in hospitals the carriers are very rare. The virulence and the distribution of the germs parallel each other. The meningitis may commence with a slight coryza and a coryza may develop after the disease. To date no measures are known which will effectually clear the air passages of the germs. Epidemic cerebrospinal meningitis is comparatively frequent, he says, in infants and is peculiarly difficult to diagnose in them as the onset is usually very insidious, commencing merely with torpor and symptoms of indigestion. This first phase is followed by a stage with a suggestion of meningitic symptoms, disturbances in pulse and respiration, tension of the fontanelles and a hint of rigidity of the back of the neck. This phase of half-suggested symptoms may last for a week or more, with intermissions and exacerbations, but then the complete clinical picture follows. If the infant recovers he is liable to develop normally thereafter, but incurable deafness or blindness may appear even during the course of the disease. Lumbar puncture is an important aid in differential diagnosis, but the prognosis is generally grave even under serotherapy. There may be evidences of ordinary serum sickness with intraspinal injection of the serum, and the meningitic symptoms may flare up again—special caution is necessary if there is anything to suggest anaphylaxis.

Bulletin de l'Académie de Médecine, Paris

April 11, LXXV, No. 15, pp. 477-493

44 *Albumin Reaction in Sputum. H. Roger.
45 *The Wassermann Reaction in Latent Syphilis. M. Letulle.

April 18, No. 16, pp. 494-521

46 Medical Affairs in French Indo-China. (Assistance, Hygiène, Epidémiologie en Indo-Chine, en 1909). Kermorgant.

44. **Albumin Reaction in Sputum.**—Roger has compiled from the literature and his own experience 1,638 cases in which the sputum has been tested for albumin, including 890 cases

of tuberculosis in the second or third stage, with negative findings in only one case, and certain features of the bacteriologic findings in this single case suggest the possibility of pseudotuberculosis. In 280 tuberculous patients in the first stage there were only two giving a negative reaction among those properly tested, and the diagnosis was made with some reserve in these. In 284 patients with non-tuberculous pulmonary or bronchial lesions a positive reaction was obtained in 144. The reaction is thus seen to be an important accompaniment to tuberculosis, its absence excluding tuberculosis with practical certainty, while its presence is not pathognomonic of this infection. All that is necessary for the test is to dissolve the sputum in water, coagulate out the mucus by adding a few drops of acetic acid, and then examine the resulting clear fluid for albumin by the usual procedures; the simplest, perhaps, is to heat the fluid after adding sodium chlorid. Examining the sputum for albumin is as simple and easy as testing for albuminuria, and the findings, Roger says, have equal diagnostic importance. Negative findings confirm the healing of old lesions and return of positive findings warns in time of a flaring up of an old tuberculous process. His experience has shown that when it is practicable to examine the elements of the albumin and determine the proportionate amounts of globulin and serin, this throws light on the prognosis, excess of the former being a favorable sign and preponderance of the serin unfavorable.

45. **The Wassermann Reaction in Latent Syphilis.**—Letulle made a practice last year of applying the Wassermann test in every obscure case whether there was suspicion of syphilis or not. The results brought many surprises, showing, for instance, that 25 per cent. of his patients with chronic nephritis were unsuspected syphilitics; also that unsuspected syphilis had evidently laid the foundation for cancer in three cases and for hemiplegia and paralysis, ophthalmoplegia, etc. In one case of a large cavity in one lung in an elderly woman, no tubercle bacilli could be discovered in the fetid sputum and the Wassermann reaction was positive. The findings were positive in 43 per cent. of the total ninety patients with chronic affections tested. Even without the test, syphilis was presumable in the patients with aneurysm, aortitis, tabes and paraplegia, but it threw unexpected light on many cases of hemiplegia, nephritis and cancer. A negative reaction has little significance but we can place almost absolute confidence, Letulle declares in conclusion, on positive findings. Reynier reports the case of a woman of 42, mother of two healthy children, who had been having stomach disturbances for a year, vomiting everything except milk; the liver was much enlarged and there was dulness below it. A cyst in the liver or cancer at the pylorus had been assumed, but before operating the Wassermann test was applied with positive findings and under mercurial treatment complete recovery soon followed. The Wassermann reaction also pointed the way to successful treatment of hemiplegia in the case of a woman of 45 with a healthy child and suspicion of inherited syphilis in the husband.

Bulletins de la Société de Pédiatrie, Paris

March, XIII, No. 3, pp. 105-151

47 Emotional Jaundice. (Cas d'ictère émotif prolongé chez un garçon de onze ans.) P. Nobécourt.
48 *Lymphocytosis in Cerebrospinal Fluid in Chorea in Children. Richardière, J. Lemaire and M. Sourdel.
49 *Constant Motor Symptom of Chorea: Dysdiadokokinesia. A. B. Marfan.
50 *Bronchial Glands and the Thymus. (Adénopathie trachéobronchique et hypertrophie du thymus.) E. C. Aviragnet.
51 *Thymectomy: Ten Cases. V. Veau.
52 *Bronchoscopy and Stenosis of the Trachea. G. Guisez.

48 and 49. **Organic Basis for Chorea.**—Richardière and Lemaire remark that the conflicting findings in the cerebrospinal fluid reported by various investigators may be explained by differences in technic. They found lymphocytosis constantly in the cerebrospinal fluid in five boys and ten girls between the ages of 5 and 14, all with typical chorea. In the one negative case in their experience, the choreiform disturbances finally proved to be a special neurosis in the young child of a mother who had had severe eclampsia at its birth. The lumbar puncture seemed to have a distinctly beneficial effect in some of the cases. The findings reported sustain the assumption of an organic basis for chorea in general. This applies also to the disturbance in the function permitting rapid alternation of movements as, for instance, alternating pronation and supination of the hand. Babinski calls this function diadokokinesia. Marfan states that it is constantly affected in chorea, and that even after apparent recovery persisting impairment of this function warns of impending recurrence.

50. **Enlargement of Bronchial Glands and Large Thymus.**—Aviragnet thinks that the symptoms attributed to hypertrophy of the thymus are in many cases merely the result of disease of the tracheobronchial glands compressing the nerves and entailing spasmodic phenomena without direct compression of the air passages. He gives an illustrated description of one such case in an infant of 16 months with stridor during inspiration, dulness over the upper part of the sternum, a retrosternal tumor perceptible during expiration, a radiographic shadow at the upper sternal region, and dyspnea only partially relieved by intubation even with a long tube—all pointing as supposed to hypertrophy of the thymus. Thymectomy was done, but the thymus was found small and intubation was necessary afterward as before. The child died in less than two weeks from suffocation after he had coughed up the tube. When the disturbance in breathing comes on after a bronchopneumonia or whooping-cough, disease of the glands is more likely to be responsible for the stridor than enlargement of the thymus, but with congenital stridor there is greater probability of the thymus being at fault. Marfan groups the cases of chronic dyspnea with stridor or wheezing in three classes: (1) stridor exclusively during inspiration, due either to congenital vestibulolaryngeal trouble or to paralysis of the dilators of the glottis; (2) stridor during both inspiration and expiration, predominating during inspiration—this is generally due to compression of the trachea by an enlarged thymus; (3) stridor exclusively or predominantly during expiration, the result of compression of the trachea or bronchi by enlarged glands. The sensation of a tumor when the finger is worked into the presternal notch may be due merely to glandular enlargement with a small thymus.

51. **Ten Thymectomies.**—Veau was able to cure four children with dyspnea from an enlarged thymus and more or less stridor, but in a case of congenital stridor a double operation on the thymus had no effect on the stridor while it cured it completely in another case. He operates only when dyspnea or suffocation seem to necessitate it, and even then he does not promise to cure the stridor by the thymectomy. In a case of recurring spasm of the glottis there were no further attacks for a month after the operation, but then they returned, very much less severe and they have gradually subsided entirely. He lost another little patient from spasm of the glottis, no operation having been attempted. He suggests the possibility that the parathyroids may perform the function of destroying a poison generated by the thymus—he knows of an instance in which a very large thymus was found in a child succumbing to spasm of the glottis. The principal source of error in regard to the thymus is the mistaking of enlarged tracheobronchial glands for the enlarged thymus. He had this experience in three cases, removing the thymus for compression of the air passages when this proved to have been the work of enlarged glands. Even when the glandular affection is suspected, if there is no involvement of the lung he would operate on the thymus to relieve dyspnea, but tuberculous pulmonary lesions, he reiterates, forbid an operation of the kind as it is liable to generalize the infection. This happened in one of his cases. Thymectomy has more than realized all expectations, he adds, when the patients are strong and otherwise well, with persisting dyspnea, with or without attacks of suffocation, and radioscopy confirms the assumption of an abnormally large thymus.

52. **Tracheobronchoscopy and Stenosis of the Trachea.**—Guisez' little patient was a child of 4 suffocating from compression of the lower third of the trachea by an enlarged gland; tracheobronchoscopy permitted effectual treatment.

Presse Médicale, Paris

April 15, XIX, No. 30, pp. 301-308

53 *Colpotomy. J. L. Faure.
54 *Hemolytic Streptococci in Puerperal Infection. D. Metzger.

April 19, No. 31, pp. 309-316

55 *Albumin Reaction in Sputum in Early Diagnosis of Tuberculosis. C. Ferreira.
56 Electro-Ionization in Chronic Gonorrheal Urethritis. R. Dupuy.
57 *Rôle of Hypophysis Cerebri in Nutrition. F. Dunan.

53. **Colpotomy.**—Faure reviews the various indications for incision of the vagina, with illustrations of the technic.

54. **Hemolytic Streptococci in Puerperal Infection.**—Metzger accepts the theory that streptococci rapidly inducing hemolysis on blood-agar are generally virulent, but that the non-hemolytic streptococci may also become virulent. When normal parturients have hemolytic streptococci in the lochia they should be kept under supervision and possibly isolated. The presence of hemolytic streptococci in the blood is almost invariably a bad omen.

55. **Albumin Reaction in the Sputum.**—Ferreira's experience with the albumino-reaction in the sputum confirms the general verdict in regard to it, namely, that negative findings exclude tuberculosis but that positive findings may be encountered occasionally in other conditions besides tuberculosis. (See Abstract 44, above.)

57. **The Hypophysis Cerebri in Relation to Nutrition.**—Dunan has been making an experimental study of the influence of hypophysis extract on the metabolism, weight, temperature, respiration, blood-pressure, toxicity of the urine and glycosuria. The extract was from horse hypophysis and rabbits were used for the experiments. The principal effect observed was a constant glycosuria, lasting for three or four days. The toxicity of the urine was also enhanced, the elimination of nitrogen diminished, and the animals all had diarrhea.

Berliner klinische Wochenschrift

April 17, XLVIII, No. 16, pp. 697-740

58 *The Curative Action and By-Effects of Salvarsan on the Ear. Hellwirkungen und Nebenwirkungen des Salvarsans auf das Ohr.) Haike and Wechselmann.
59 The Wassermann Reaction and Stern's Modification. M. Weichert.
60 The Wassermann Reaction and von Dungern's Modification. J. Kahn.
61 *Unreliability of Tryptophan Reaction in Stomach Content in Cancer. (Das peptidspaltende Vermögen des Mageninhalts.) L. Ehrenberg.
62 *Pathogenesis and Treatment of Cholelithiasis. P. Mayer.
63 Acute Perforative Appendicitis in Incarcerated Inguinal Hernia. L. Meyer.
64 Negative Experiences with Nucleic Acid in Treatment of General Paralysis. J. Loewenstein.
65 Improved Cystoscope. (Ein Cystoskop für Ureterenkatheter mit grossem Durchmesser.) E. Garceau.
66 Acoustic Test for Stomach Acidity. (Die akustische Salzsäureprobe mittels Natron und ihr Verhältnis zu der Brauseprobe von A. L. Benedict, Buffalo.) F. Fuld.
67 Resection of the Stomach. (Kritische Bemerkungen zu dem Artikel des Herrn Pochhammer: Beiträge zur Magenresection.) I. Boas, C. Pochhammer.

58. **Action of Salvarsan on the Ear.**—Haike and Wechselmann report the combined study of this subject by an internist and ear specialist, reviewing what has been written to date in respect to the action of salvarsan on the ear. The conclusions from their experience and those reported in the literature are that syphilitic disease of the ear is amenable to salvarsan in all its stages and in the inherited form. The salvarsan may benefit when the ear trouble has resisted mercury but it may likewise fail. The details of six cases are given, including a case of severe syphilis of the auditory nerve entailing deafness for two weeks, completely cured by the eighteenth day after salvarsan. Their experience has further shown that auditory disturbances may develop without salvarsan similar in every respect to those that have been noted after salvarsan treatment. It seems evident however, they say, that salvarsan modifies conditions so that manifestations of the syphilis usually restricted to the third phase may develop very early in the disease. Everything points to the assumption that the auditory disturbances observed under salvarsan are caused indirectly by the drug, at the point where the spirochetes are ensconced. Without the stimulation of the salvarsan, the spirochetes at these points probably would not have made their presence felt until a much later period. It is certainly an advantage, they declare, to be able to root out the spirochetes early in the disease instead of letting them lie latent for a long time and possibly do irreparable damage. Reports of seven cases of these by-effects on the ear after injection of salvarsan are appended. In five of the cases the auditory disturbances were cured by repeating the injection of salvarsan; in the others they subsided under mercury.

61. **Glycyl Tryptophan Test for Gastric Cancer.**—Ehrenberg reports research which seems to speak against the reliability of the peptid-splitting test, the findings varying from positive to negative in the same patient at different times in some cases and being negative in others with unmistakable gastric cancer and positive in simple anemia with cancer of other organs. He explains the reaction as due to the presence or lack of the normal acid secretion; acid checks the reaction.

62. **Gall-Stone Disease.**—Mayer advocates copious drinking of hot water to dilute the bile, with administration of sodium salicylate internally to act on the local inflammation, deep breathing to promote circulation of bile and bed rest as long as there is a trace of inflammation. Another important measure is to act on the sphincter between the common bile duct and the duodenum, coaxing it to open often and thus facilitate passage of bile into the intestine. This is accomplished by keeping the stomach often at work. When the chyme passes out of the stomach the sphincter opens to correspond; when the stomach is empty, bile ceases to pass into the intestine. This is the reason why frequent meals are better in gall-stone disease; at the same time it is important to refrain from overloading the stomach. There should be at least five meals a day, he declares, indigestible foods and those which putrefy and ferment easily being carefully avoided, as these, by irritating the stomach and compelling it to work too hard, induce reflex contraction of the gall-bladder and thus may start colic. Another reason for light meals is that the stomach is very often sympathetically affected in cholelithiasis. Very cold and very hot articles of food should be avoided for the same reason, but otherwise there is no special diet for gall-stone disease. Drugs to increase secretion of bile are not liable to be useful but rather to increase the trouble from pressure; dilution of the bile is much more rational. For this he recommends a glass or two of hot water an hour before breakfast and before retiring, with small amounts frequently during the day.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 20, XLI, No. 12, pp. 417-448

68 *Functional Tests of the Heart. (Funktionsprüfung des Herzens.) R. Staehelin.

68. **Tests of the Functioning of the Cardiovascular System.**—Staehelin concludes this long review of the various methods of estimating the sufficiency of the heart and vessels with the statement that the pulse-rate after graduated muscular exertion is the only practicable method yet at our disposal for estimating the functional capacity of the heart. Even this does not show whether the disturbance is in the heart or in the vessels. To date, he says, there is no means for estimating the functioning of the arteries. If the efforts in this line so far have given no tangible results, yet they have thrown much light on the mechanism of the circulation.

Deutsche medizinische Wochenschrift, Berlin

April 20, XXXVII, No. 16, pp. 721-768

69 *Treatment of Frontal, Maxillary and Sphenoidal Sinusitis. (Behandlung der entzündlichen Erkrankungen der Nasennebenhöhlen.) G. Killian.
70 *Electric Investigation in Vertigo from Disease of the Internal Ear. (Untersuchungen über den Labyrinthschwindel und die elektrische Reizung des N. vestibularis.) F. Dyrenfurth.
71 Experimental Tuberculosis of the Iris and Chorioid in Rabbits. F. Schieck.
72 Gunshot Injuries from Medicolegal Standpoint. (Beiträge zur gerichtsärztlichen Beurteilung von Schussverletzungen.) G. Puppe.
73 *Characteristic Painful Point in Abdomen with Sciatica. (Ein Abdominaldrucksymptom der Ischias.) S. Garn.
74 Incision for Appendectomy. (Bauchdeckenschnitt bei Blinddarmoperationen.) Hackenbruch.
75 Complications Liable to Occur with Torsion of Pedicle of Ovarian Tumors. F. Gronarz.
76 *Successful Roentgen-Ray Treatment of Genital Tuberculosis. F. Spaeth.
77 *Alternating Treatment of Leg Ulcer. Althoff.
78 Case of Purgen Poisoning. E. Zabel.

69. **Sinusitis.**—Killian gives an illustrated description of the electric light bath for the head which he has found extremely useful in treating acute inflammations of the frontal, sphenoidal and maxillary sinuses. The four incandescent lights in the box shine directly on the face, the eyes being protected by a leather bandage. The patient breathes comfortably through a tube in his mouth; by a special contrivance the air is impregnated with moisture before it is breathed. The action of the active hyperemia thus induced is enhanced by small doses of sodium or potassium iodid, bed rest, and 0.5 or 1 gm. acetyl salicylic acid (aspirin) half an hour before the electric bath to promote sweating. He states that his experience with this method of treatment has been so extensive and so favorable that he regards it as far superior to any other. Recovery is complete under it in a week or two unless there is some obstacle in the nose to evacuation of the sinus. He warns against operative measures during the height of the inflammation. Only when the acute phase is past and the affection is becoming chronic is it safe to venture to resect the lower end of the middle turbinate. If the frontal sinus has to be opened it should be done from without. Radical operations should be reserved for old chronic cases and success depends on careful individualization and skill; great harm may easily result from the lack of either.

70. **Labyrinthine Vertigo and Electric Stimulation of the Vestibular Nerve.**—Dyrenfurth has the patient close his eyes and stand on one foot with the other knee bent at a right angle, supporting himself merely by the tip of a finger resting on the back of a chair, this position having been found a great improvement in the technic for electric tests of the auditory nerve. One electrode is held in the hand while the other pole is connected with a double electrode fitting over both mastoid processes. By this means an even current is passed from both sides through the region of the vestibular nerves, and the slightest tendency to loss of balance becomes at once apparent. Neurasthenic patients and those who have suffered from a traumatic shock to the brain (commotio cerebri) are most sensitive. Patients with unilateral labyrinthine disease fall toward the diseased side when the trouble is irritative, while they fall toward the opposite side in case of a tendency to atrophy of the nerve when stimulated with the anode, while the tendency to fall in these directions is reversed when the cathode is substituted. He gives the details of ten cases and reports further experiments on healthy subjects.

73. **Abdominal Tender Point as Symptom of Sciatica.**—Gara has found constantly in 118 cases of sciatica a certain symptom, which, he says, throws light on the etiology of the affection and explains the failure of treatment hitherto in many cases. The symptom was lacking in only 6 of his 124 patients with sciatica. It is an extremely painful point found by pressing the finger into the abdomen over the spinous process of the last lumbar vertebra, thus pressing on the nerve roots and the sacral plexus. Moderate pressure elicits severe pain on the side affected, while pressure at this point is not painful on the sound side and in the healthy. He locates the point a fingerbreadth below the umbilicus and two fingerbreadths to the side of the median line, pressing perpendicularly to the spine. The remarkable feature of this symptom is that, notwithstanding the sensitiveness of this point, the patients are not aware that anything is wrong there, never experience local pain at this point and never complain of abdominal pain except with much constipation, when feces accumulate and stagnate. A purgative will therefore aid in relieving pain from pressure of the distended large intestine on the sacral plexus, when the sciatica is on the left side; there is no opportunity for such pressure on the right side. Pregnancy may also lead to compression of the plexus. The pain from its compression is rarely felt at the point; it radiates down the sciatic nerve. This tender point in the abdomen indicates the methods of treatment from which we may anticipate good results.

76. **Tuberculosis of Uterus Cured by Roentgen-Ray Treatment.**—In the case reported by Spaeth a young woman had a severe tuberculous process in the internal genitalia which proved rebellious to repeated operative measures even after the lesion had been opened up and the region sutured to the skin. The hectic fever was continuous, the patient being reduced to a skeleton and unable to sit up in bed. As a last resort Roentgen-ray treatment was applied; it induced an intense local reaction, copious secretion, with reopening of the intestinal fistulas and the temperature rose still higher. He did not have courage to repeat the exposure until two weeks later and then continued the treatment with progressive benefit, until there had been eighteen exposures and a total of sixty-three minutes' exposure in five months; the patient returned in apparently perfect health after a summer in the country.

77. **Alternating Treatment of Leg Ulcer.**—Althoff has had far better results since he has introduced a system of alternately dressing the ulcer during the day with a salve containing 2.5 parts Peruvian balsam and 0.75 parts silver nitrate with 50 parts petrolatum, and then at night dressing the ulcer with a compress dipped in a 1 per 1,000 solution of bichlorid of mercury, not extending more than half an inch beyond the lesion, the whole being covered with a waterproof bandage. The ulcer is thus dressed twice a day by the patient; the whole leg is soaked in warm water for four or five minutes each time the dressing is changed. He cites a few cases to illustrate the efficacy of this alternating method, each of the applications supplementing the other and warding off possible injury.

Münchener medizinische Wochenschrift

April 18, LVIII, No. 16, pp. 833-880

79 *Exophthalmic Goiter. (Ueber den Morbus Basedowii.) A. Saenger.
80 Advantages of Early Operative Treatment in Exophthalmic Goiter; Thirty-Four Cases. P. Sudeck.
81 Hypersusceptibility in Relation to Infection and Immunity. (Rolle der Ueberempfindlichkeit bei der Infektion und Immunität.) A. Schittenhelm and W. Welchardt.
82 The Aphasia Question. (50 Jahre Aphasieforschung.—1861, 18. April—1911.) K. Heilbronner.
83 *Salvarsan in Syphilis. T. Schmidt.
84 *Clinical and Experimental Evidence that Salvarsan Does Not Act on the Cornea. (Klinische und experimentelle Beobachtungen über das Verhalten des Salvarsan zur Hornhaut.) W. Löhlein.
85 Butenko's Urine Reaction not Specific for Progressive Paralysis. H. M. Stucken.
86 *Superheated Air in Skin Diseases. (Heissluftbehandlung bei Dermatosen.) P. Esau.
87 Clinical Picture of the Plague by Lucretius and Livy. Schroeder and F. Kannglesser.

79. **Exophthalmic Goiter.**—Saenger formerly explained this disease as a neurosis but has been converted to regard it as the result of perverted functioning of the thyroid. He is sustained in this view by the benefits from surgical treatment, by the development of exophthalmic goiter in consequence of acute inflammation of the thyroid, an occurrence which he has witnessed himself several times, by the manifestations of the so-called secondary Basedow syndrome, and lastly, by the fact that recurrence of the goiter is accompanied by return of the Basedow symptoms. The importance of acute infections in the etiology of exophthalmic goiter is often overlooked. Palpitations of the heart are usually the first symptom, the thyroid not becoming enlarged until later. The exophthalmos is generally bilateral. In his ninety-seven cases six of the patients have died, two after thyroidectomy, the four others from the heart disturbances and weakness. The first measure in treatment is change of scene and if possible of occupation. A course of rest and forced feeding alone may restore the earning capacity. The symptoms became aggravated under thyroidin treatment in his experience. In two cases improvement followed Roentgen-ray treatment, but there was no benefit in another case. He advises a course of internal treatment at first; if after a reasonable time the earning capacity is not restored, he calls in the surgeon. If the condition grows bad again in the years after an operation, instead of ascribing the aggravation to the operative measures, he orders still more of the thyroid to be removed. Operative treatment is especially indicated for working people as the earning capacity is more promptly restored.

83. **Salvarsan in Syphilis.**—Schmidt reports a few unfavorable experiences in the course of salvarsan treatment of 250

syphilitics. In one tabetic, progressive paralysis developed four days after the injection, the entire domain of the sciatic nerve being paralyzed for a time, but at present a peroneus paralysis is all that is left of the trouble. Peroneus paralysis also developed after injection of salvarsan in the early stage of syphilis in another case, the paralysis having been preceded by two weeks of severe pain in the whole leg. Two of his patients have since died, one from cancer metastasis in the brain; the other, a tabetic, died three weeks after the injection which had been borne without disturbance. In neither case, he states, could the salvarsan be incriminated in the fatality.

84. **Inefficacy of Salvarsan in Syphilitic Keratitis.**—Löhlein reports that no benefit was apparent in the nine cases of syphilitic parenchymatous keratitis in which he applied salvarsan; the involvement of the other eye was not prevented. Even supplementary threefold subconjunctival injection of 0.01 gm. salvarsan failed to arrest the corneal lesion. The failure of the drug in these cases cannot be ascribed to nonpenetration of the drug into the cornea as he demonstrated by experiments on rabbits with both subcutaneous and intravenous injection of the drug.

86. **Superheated Air in Treatment of Skin Diseases.**—Esau urges the more general application of superheated air in treatment of dermatoses, declaring that it should at least be given a fair trial before starting a tedious, complicated course of treatment. The way it stops the itching is its most grateful effect while in treatment of weeping and scaling skin affections, he says that it is at least as effectual as other measures at our command. He uses the hot-air box, with the hot-air douche only when it is impossible to apply the hot-air box to the region. One specially interesting feature of the treatment is the way in which, when one patch is exposed, other patches seem to feel the benefit, too, and display an evident, though milder, reaction.

Wiener klinische Wochenschrift, Vienna

April 13, XXIV, No. 15, pp. 519-554

88 Protecting Powers of the Cells. (Die Schutzkräfte der Zellen.) E. Pribram.
89 Further Experimental Research on Anaphylaxis. (Ueber die Zuverlässigkeit des Peptonnachweises als Abbaureaktion bei der Anaphylaxie.) F. Schenk.
90 *Case of Extensive Tuberculosis of Mediastinal Glands. (Beziehungen der Lymphdrüsentuberkulose zur Hodgkinschen Krankheit.) O. M. Chiari.
91 *Diagnostic Importance of Tubercle Bacilli in Stools. (Diagnostische Verwertbarkeit des Tuberkelbacillennachweises in den Fäzes.) F. Rittel-Wilenko.
92 *Treatment of Writer's and Player's Cramp, etc. (Zur Therapie der koordinatorischen Beschäftigungsneurosen und über Autogymnastik in chronischen Fällen derselben.) M. Benedikt.
93 Isolated Fracture of the Carpal Bones. (Isolierte Karpalknochenfrakturen.) A. v. Posch.
94 Syphilis of the Ear. (Zur Frage der Erkrankungen des Akustikus und des Labyrinthes bei erworbener Lues.) O. Mayer.

April 20, No. 16, pp. 555-582

95 Action of Ultraviolet Rays on Albumin Antigen and Its Antibody. (Wirkung des ultravioletten Lichtes auf das Eiweissantigen und seinen Antikörper.) R. Doerr and J. Moldovan.
96 *Presence of Cholesterin in the Blood of Pregnant Women. (Cholesterinesteremia.) L. Aschoff.
97 Comparative Serologic Tests in Tuberculosis, Syphilis and Leprosy. (Peptone Reaction.) (Peptonreaktion bei Tuberkulose, Lues und Lepra.) R. Müller and E. Suess.
98 Atoxyl in Tuberculosis. (Einige Fälle von Atoxylbehandlung der Tuberkulose.) B. Knothe.
99 Toxic Action of Typhoid Effusion on the Circulation. (Untersuchungen über die Giftwirkung von Typhusexsudaten auf den Kreislauf.) E. Hoke.
100 *Insurance Statistics an Unreliable Basis for Study of General Public Health Conditions. (Die Schwierigkeiten bei der Verwertung der Krankenkassenstatistik.) L. Teleky.

90. **Connection Between Glandular Tuberculosis and Pseudoleukemia.**—In the case reported the presumptive diagnosis had been primary carcinoma of the right bronchus with a metastatic tumor in the glands. Necropsy disclosed that the trouble was a tuberculous tumor involving the glands, compressing the bronchi and involving their walls and the pleura, plus caries of ribs and extensive tuberculosis of the lymph glands—the whole picture suggested Hodgkin's disease. The resemblance was the more striking on account of the way in which the tuberculous processes had invaded adjacent organs, as in malignant disease.

91. **Tubercle Bacilli in the Stools.**—Wilenko has examined recently the stools in every case of tuberculosis and tabulates the clinical and necropsy findings in fifty-four cases. They show that tuberculous processes may exist in the intestines without any manifest symptoms; whenever tubercle bacilli were found in the stool, tuberculous lesions were evident in the intestines at necropsy. Intestinal lesions proved to be far more common than was surmised from the course of the cases. Two patients had no tubercle bacilli in the stools on repeated examination, notwithstanding extensive pulmonary lesions, and the intestines were found intact in these cases.

92. **Treatment of Occupational and Other Coordination Neuroses.**—Benedikt comments on the great curative value of local injection of a 2 per cent. solution of phenol in treatment of writer's cramp and other occupational neuroses. No one else, he says, seems to have realized the importance of this simple measure, although he has advocated and practiced it for years, and he has never known it to fail, even in old chronic cases. Tender points can always be found in the tendons of the wrist or hand, or in the heads of the tendons in the elbow or shoulder in these cases of occupational coordination neuroses, and injection of the weak phenol solution at the tender points speedily restores conditions to normal. He explains the trouble as a central coordination neurosis, a reflex affection which can be checked and cured by curing the original source in the tendons and muscles which sets up the mischief. These neuroses are particularly common among piano students and professional players and they put an end to all instrumental playing for the time; a few injections at the tender points, however, cure the underlying disturbance and with it the neurosis vanishes. In one recent case of the kind, the tender point was found in the bend of the elbow. Injection here caused a slight anesthesia in the domain of the ulnar nerve, but it restored the use of the hand so the patient was able to give a concert the week after. In the chronic cases, massage of the nerve may be useful, and he has obtained good results with massage applied crosswise to the nerve, as a guitar string is played.

96. **Cholesterinemia in Pregnant Women.**—Aschoff reviews recent research which has thrown light on the formation of cholesterin stones. It seems that cholesterin is liable to be deposited whenever there is obstruction to the free flow of bile. Any stagnation of bile is thus liable to entail formation of a cholesterin stone, and conditions during a pregnancy almost inevitably interfere more or less with the free outflow of bile. This explains the "cholesterinesteremia" in the pregnant woman to which Neumann and Herrmann among others have recently called attention. It also suggests that the seed for cholelithiasis is planted in many cases during a pregnancy, the primary cholesterin stone growing by concretion and the irritation from it later leading to infection and the whole train of gall-stone disease. Aschoff is inclined to believe that there is increased production of cholesterin esters under the influence of the pregnancy and that they accumulate at various points, an actual cholesterin-steatosis.

100. **Difficulties in Drawing General Conclusions from Statistics.**—Teleky calls attention to the report recently published by the Leipsic sickness insurance company, the data in which cover 1,284,676 persons under observation during one year, with tabulation of the details in respect to sex, age, occupation, sickness, etc. Over $80,000 was appropriated by the Reichstag in 1903 for the work, the Leipsic *Krankenkasse* being the only one that had kept its books with sufficient detail for the purpose. Teleky warns that while this work will supply a basis for further research in many directions, general conclusions based on the statistics are almost certain to be fallacious as so many factors have to be taken into account. He shows the danger of this by a number of concrete examples.

Zentralblatt für Chirurgie, Leipsic

April 22, XXXVIII, No. 16, pp. 565-596

101 Operative Treatment of Aneurysm of the Carotid Artery. F. Weber.
102 *Convulsions After Orthopedic Operations. (Krampfanfälle nach orthopädischen Operationen.) K. Gaugele.

102. **Convulsions After Orthopedic Operations.**—Gaugele has had two cases of this kind similar to the ten reported by

Schanz, summarized in THE JOURNAL, Feb. 12, 1910, page 576. Schanz explains the convulsions as due to fat embolism, but Gaugele says that the symptoms are by no means those of fat embolism and Codivilla, whose article was summarized in THE JOURNAL, Dec. 4, 1910, page 2277, also rejects the assumption of fat embolism as the cause of the convulsions after orthopedic operations. In Gaugele's two cases the convulsions developed four or five days after reduction of congenital dislocation of the hip joint in children of 7 and 9. The convulsions kept up for a day or two; the pupils were rigid but there was no fever and both patients recovered. The children seemed to be doing well until the rest of the family came to see them, the visit being full of excitement and weeping and the family staying three hours, long past the allowed time. The epileptiform convulsions developed almost at once after the excitement of the visit, and since then Gaugele refuses to allow any visits from friends until two weeks after the operation and he has had no further disturbances of the kind, not even in the severest cases, with children up to 10 or 15 years old. Schanz ascribes a great curative effect to saline infusion, and Gaugele found it beneficial, although he does not accept Schanz' explanation for this. In another case the symptoms indicated actual fat embolism; soon after the operation (correction of paralytic club-foot), there were intense pains in the abdomen and heart region with vomiting, irregular and rapid pulse, pallor and a distressed expression, although the patient was tranquil. After subcutaneous injection of 200 c.c. of salt solution, the symptoms subsided and by the end of two hours the condition was normal.

Zentralblatt für Gynäkologie, Leipsic

April 22, XXXV, No. 16, pp. 609-640

103 Improved Technic for Cesarean Section. (Zur weiteren Verbesserung der Kaiserschnittstechnik.) J. Veit.
104 Progress Forward or Backward? (Neuerung oder Fortschritt?) M. Hofmeier.
105 *Hypnosis. (Nochmals die Hypnose.) J. Kocks.

105. **Hypnosis.**—Kocks presents further arguments to sustain his assumption that hypnotic seances have never been genuinely scientific.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 6, XXXII, No. 42, pp. 449-470

106 Origin of Ossifying Myositis. U. Fubini.

April 9, No. 43, pp. 471-489

107 Exogenous and Endogenous Metabolism. F. Bottazzi. Commenced in No. 40.
108 *Alcoholism and Tuberculous Peritonitis. F. F. Aquilani.
109 Pathologic Anatomy of the Beard. (Alcune anomalie del peli del mento.) S. Giovannini.

April 16, No. 45, pp. 473-492

110 Autoserotherapy. C. Garmagnano.

108. **Alcoholism and Tuberculous Peritonitis.**—Aquilani practices in a vine-growing region in Italy where the inhabitants drink wine almost exclusively, the alcohol content ranging from 13 to 15 per cent. Notwithstanding the pure air, robust constitutions and absence of poverty in the region, cirrhosis of the liver and all forms of tuberculosis are remarkably prevalent. He thinks that few regions can show so emphatically the close connection between alcoholism and tuberculosis. In a case described in detail, fatal ileus developed in the course of chronic afebrile tuberculous peritonitis in a man of 35.

Policlinico, Rome

April 9, XVIII, No. 15, pp. 453-484

111 Vitality of Cholera Vibriones in Water. E. Piccinini.
112 Dry Sterilization of Catgut. E. Lay and G. de Pascalis.

April, Medical Section, No. 4, pp. 169-192

113 Congenital Malaria. P. Sibilia.
114 Spontaneous Typhoid in Goats. (L'infezione spontanea nelle capre da bacillo di Eberth.) E. Scarzio.
115 Spontaneous Paratyphoid Infection in Goats. (L'infezione spontanea nelle capre da paratifo B nelle capre.) E. Scarzio.
116 Metabolism of Nitrogen and Urea in Goat. (Contributo sperimentale sulla connessione fra quantità assoluta ed urea nella capra.) P. Pentimalli. Commenced in No. 2.

Ugeskrift for Læger, Copenhagen

April 15, LXXIII, No. 16, pp. 541-544

118 Campaign Against Tuberculosis in Denmark During the Last Ten Years. H. Bendixen.
120 Nature of Cancer and Vaccine Therapy. (Kræftens Natur og Behandling.) C. Otto.

Hygiea, Stockholm

March, LXXIII, No. 3, pp. 257-384

117 Cesarean Section. (Några ord i kejsarsnittsfrågan.) O. Lundblad.
118 *Gastric Endothelioma. (Till ventrikelendoteliomernas kasuistik.) V. B. Jörgensen.

118. **Gastric Endothelioma.**—Jörgensen reviews four cases—all he has been able to find in the literature, and then reports a fifth. His patient was a woman of 56 and she is in good health to date, ten months after resection of nearly half of the stomach. The tumor projected fully 4 cm. into the stomach and around the base measured 19 cm. Diarrhea had been the first symptom a year before the operation. Oppression and pain in the stomach had been noted for two or three months.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

I. STUDIES ON PLAGUE IN GROUND-SQUIRRELS (IN FOUR PARTS). Part I. Pathology and bacteriology of plague in ground-squirrels. Part II. Notes on induced plague in ground-squirrels. Part III. Immunity of certain squirrels to plague infection. Part IV. Insect transmission in relation to plague among ground-squirrels. 2. A PLAGUE-LIKE DISEASE OF RODENTS. By George W. McCoy, Passed Assistant Surgeon. Hyg. Lab. Bull. 43, U. S. P. H. and M.-H. S., Treasury Department, April, 1911. Paper. Pp. 75, with illustrations. Washington: Government Printing Office, 1911.

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COMBAT IT. Seventh American Edition. Prize Essay by S. Adolphus Knopf, M.D., New York, Professor of Phthisio-Therapy at the New York Post-Graduate Medical School and Hospital. (International Prize Awarded by Committee of the International Congress to Combat Tuberculosis as a Disease of the Masses, at Berlin, July 31, 1900.) Paper. Price, 25 cents. Cloth. Price, 50 cents. Pp. 122, with 64 illustrations. New York: The Survey, 105 E. Twenty-Second Street (1911).

LEHRBUCH DER KINDERHEILKUNDE. Bearbeitet von Prof. Dr. Feer, Heidelberg; Prof. Dr. Finkelstein, Berlin; Priv.-Doz. Dr. Ibrahim, München; Dr. L. F. Meyer, Berlin; Prof. Dr. Moro, München; Prof. Dr. Von Pirquet, Breslau; Prof. Dr. Pfaundler, München; Prof. Dr. Thiemich, Magdeburg; Priv.-Doz. Dr. Tobler, Heidelberg. Herausgegeben von Prof. Dr. E. Feer, Direktor der Univ.-Kinderklinik in Heidelberg. Paper. Price, 11.50 marks. Pp. 734, with 162 illustrations. Vienna: Gustav Fischer, 1911.

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE AND TOXICOLOGY. By E. A. Wittbaus, A.M., M.D., Professor of Chemistry, Toxicology and Medical Jurisprudence in Cornell University, and Tracy C. Becker, A.B., LL.B., Professor of Criminal Law and Medical Jurisprudence in the University of Buffalo. With the Collaboration of Various Authors. Second Edition. Volume 4. Cloth. Price, $7. Pp. 1262. New York: William Wood & Co., 1911.

DIGEST OF COMMENTS ON THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA (EIGHTH DECENNIAL REVISION) AND THE NATIONAL FORMULARY (THIRD EDITION) FOR THE CALENDAR YEAR ENDING DEC. 31, 1908. By Murray Galt Motter and Martin I. Wilbert. Hyg. Lab. Bull. 75, U. S. P. H. and M.-H. S., Treasury Department, April, 1911. Paper. Pp. 568. Washington: Government Printing Office, 1911.

A TUBERCULOSIS SERMON. By S. Adolphus Knopf, M.D., Professor of Phthisio-Therapy at the New York Post-Graduate Medical School and Hospital. With a Foreword by the Rev. John Haynes Holmes, Minister of the Church of the Messiah. September, 1910. Paper. Pp. 16. New York: The Church of the Messiah, Park Avenue and Thirty-Fourth Street.

SCHUTZIMPFUNGEN UND IMMUNITÄT. Unter Benutzung amtlicher Quellen bearbeitet von Prof. Dr. Martin Kirchner, Geheimem Obermedizinalrat und vortragendem Rat im Ministerium des Innern. Paper. Price, 1 mark. Pp. 158, with 28 illustrations. Berlin: Richard Schoetz, 1911.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twenty-Second Session Held at the New Willard Hotel, Washington, D. C., May 3, 4 and 5, 1910. Edited by Clemens Edford De Vére, M.D. Volume XXII. Cloth. Pp. 377, with illustrations. New York: E. B. Treat & Co., 1911.

REPORT FROM THE PATHOLOGICAL DEPARTMENT (CENTRAL INDIANA HOSPITAL FOR INSANE, 1906-07, 1907-08. (Cloth. Pp. 104. Vols. I and II. Same for 1908-1909. Vol. III. Pp. 224. George F. Edenharter, M.D., Superintendent, Indianapolis.

OFFICIAL PROCEEDINGS OF THE FIRST ANNUAL SESSION OF THE PAN-PACIFIC CONGRESS, Held at Honolulu, Hawaii, Feb. 20-28, 1911. H. E. Wood, Secretary, Honolulu, Hawaii. Paper. Pp. 47.

HEALTH HINTS AND HEALTH TALKS. By E. H. Britcnard, Secretary of the Chicago Department of Health. (Cloth. Price, 50 cents net. Pp. 193. Chicago: The Reilly & Britton Co.

DIE HOMOKINSCHE KRANKHEIT. Von Dr. Kurt Ziegler, Privatdozent in Breslau. Paper. Price, 9 marks. Pp. 294, with illustrations. Vienna: Gustav Fischer, 1911.

THIRTY-FIRST ANNUAL REPORT OF CHRISTIAN MEDICAL ST. JOSEPH'S HOSPITAL, OMAHA, NEB. For the Year Ending Dec. 31, 1910. Paper. Pp. 34.

TWENTY-SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF FLORIDA, 1910. Joseph Y. Porter, Secretary, Jacksonville. Paper. Pp. 172.